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MONOGRAPH

OF THE GENUS

PHILINE.

"Oh! what a happy life were mine
Under the hollow-hung ocean green."—*Tennyson.*

MT. f. 4.

CONCHOLOGIA ICONICA:

OR,

ILLUSTRATIONS

OF THE

SHELLS OF MOLLUSCOUS ANIMALS.

87966

VOL. XVIII.

CONTAINING MONOGRAPHS OF THE GENERA

PHILINE.	SCAPHANDER.	MULLERIA.	CLAVAGELLA.
BULLINA.	PHOLAS.	SOLENELLA.	LIMNÆA.
NUCULA.	YOLDIA.	NEILO.	LIMA.
UTRICULUS.	LÆDA.	PHOLADOMYA.	DENTALIUM.
OSTRÆA.	PLACUNA.	SUCCINEA.	CORBIS.
LINTERIA.	ETHERIA.	MAGILUS.	

BY

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CONTINUED BY

G. B. SOWERBY, F.L.S.

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"Each shell, each crawling insect holds a rank
Important in the plan of Him who framed
This scale of beings; holds a rank, which lost,
Would break the chain, and leave behind a gap
Which Nature's self would rue."

Stillingfleet.

LONDON:

L. REEVE & CO., HENRIETTA STREET, COVENT GARDEN.

1873.

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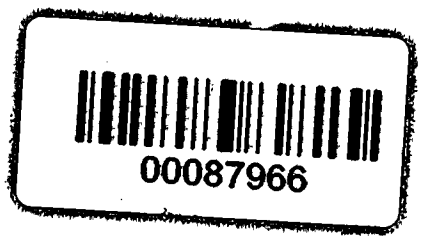


1.

2. a.

2. b.

3.

4. a.

4. b.

4. c.

5. c.

5. b.

2. c.

PHILINE.

PLATE I.

Genus PHILINE, *Ascanias.*

Testa spiralis, patelliformis, ovata, vel subquadrata, alba, tenuis, spirâ cælatâ, anfractibus paucis, junioribus parvis, magno, latè aperto.

Shell spiral, patelliform, ovate or subquadrate, white, thin, spire concealed, whorls few, the earlier ones small, the last large, widely open.

Besides the *Philine aperta* of our own coasts, we possess several small and very interesting species, such as *Ph. Catena, Ph. pruinosa*, and others well known to British naturalists. It is difficult to distinguish by the shells alone the large Australian species from the Mediterranean and British *Ph. quadripartita* and *Ph. aperta*, for the variations in form are repeated in each species. Although the fourteen species now enumerated exhaust the list of those that are now known, there can be no doubt that the number of existing species must in reality be much greater that have not been brought to light, owing to the concealment of the shell by the animal integuments.

Species 1. (Mus. Brit.)

PHILINE PLANCIANA. *Ph. testâ oblongâ, subquadratâ, lævigatâ, lateribus rectiùsculis, labio externo posticè subtruncato, suprà medium subcontracto.*

PLANCHE'S PHILINE. Shell oblong, subquadrate, smooth, sides rather straight, outer lip posteriorly subtruncated, slightly contracted above the centre.

PHILIPPI. Enum. Moll. Sic. i. p. 94.

Philine quadripartita? A. Adams, not Ascanias.

Hab. British Isles. Mediterranean. Philippines.

The figure in Chemnitz referred to as the *Philine quadripartita* of Ascanias certainly represents the prevailing form of the common British and Mediterranean shell.

Species 2. (Fig. *a, b, c*, Mus. Sowerby.)

PHILINE APERTA. *Ph. testâ ovato-rotundatâ, albâ, leviter undatâ; lateribus rotundatis, labio externo posticè elevato, subacuminato, subcontracto, anticè latè subemarginato, anfractu penultimo angustato.*

THE OPEN PHILINE. Shell ovately rounded, white, lightly undulated; sides rounded, outer lip posteriorly elevated, subacuminated, rather contracted, anteriorly widely subemarginated, penultimate whorl narrow.

BULLA APERTA. *Linnæus.* Systema Naturæ.

Bullæa quadripartita. Ascanias.

Bullæa Schræteri. Philippi.

Lobaria quadrilobata. Müller.

Hab. Great Britain. Mediterranean. Cape of Good Hope? Philippines?

This being the prevailing form of British and Mediterranean Philine, the original name ought to be retained, rather than the new one adopted by Philippi.

Species 3. (Mus. Sowerby.)

PHILINE COREANICA. *Ph. testâ oblongâ, rectiusculâ, subcomplanatâ, pallidissimè fulvâ, posticè angustiùsculâ, lateribus rectiusculis, aperturâ posticè subcontractâ, utrinque rotundatâ.*

THE KOREAN PHILINE. Shell oblong, rather straight, rather flattened, very pale fawn, rather narrow behind, sides rather straight, aperture contracted posteriorly, rounded at both ends.

A. ADAMS. Sowerby's Thesaurus; species 139. Bulla, fig. 166.

Hab. Korean Archipelago.

Species 4. (Fig. *a, b*, Mus. Sowerby; fig. *c*, Mus. Cum. in Brit.)

PHILINE ANGASII. *Ph. testâ magnâ, ovato-subquadratâ vel acuminatâ, albâ, spiraliter substriatâ, concentricè leviter undulatâ, aperturâ latâ, posticè subquadratâ, elevatâ; anfractu penultimo elongato.*

ANGAS'S PHILINE. Shell large, ovately subquadrate, or acuminated, white, spirally substriated, concentrically slightly undulated, aperture wide, poste-

riorly subquadrate, elevated; penultimate whorl elongated.

ADAMS. Pro. Zool. Soc.

Hab. Port Lincoln, &c., Australia.

It is difficult, if not impossible, to distinguish the variable forms of this Australian species from *Ph. aperta*, some of them taking the straighter character of Philippi's *Ph. Planciana*. The specimens, however, attain a larger size than either of the above mentioned species, and it is probable, from the locality, that the animal is different.

Species 5. (Fig. *a*, *b*, Mus. Sowerby.)

PHILINE TRUNCATISSIMA. *Ph. testâ brevi, subquadratâ, subcompressâ, tenui, diaphanâ, lineis concentricis opacis distantibus, anticè angulatis notatâ; aperturâ anticè latissimâ, latè truncatâ; labio externo angulato.*

THE VERY TRUNCATE PHILINE. Shell short, subquadrate, subcompressed, thin, diaphanous, marked with distant concentric opaque lines which are angular in front; aperture very wide in front, widely truncated; outer lip angular.

SOWERBY.

Hab. —— ?

This transparent little species is remarkable for the truncated character of the widened anterior, producing an angle on the lower part of the outer lip; which is beautifully indicated by the opaque white lines delineating the edges of former outer lips.

6.

7. a.

7. b.

8.

9.

10.

11.

12. a.

12. b.

13.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

PHILINE.

PLATE II.

Species 6. (Mus. Cum. in Brit.)

PHILINE SCUTULUM. *Ph. testâ ovato-subquadratâ, anticè vix truncatâ, albâ, subpellucidâ, fasciis binis subincrassatis, striis punctatis, alternis sæpe tenuioribus sculptâ; apice angusto, rimato, depresso; labro posticè parum producto, dein leviter impresso, subrecto; margine columellari valdè arcuato; aperturâ valdè expansâ.*

THE SHIELD PHILINE. Shell ovately-subquadrate, anteriorly very slightly truncated, white, subpellucid, sculptured with two thick bands and punctured striæ alternately, often thinner; apex narrow, bordered, depressed; outer lip a little produced posteriorly, then slightly pressed inwards, nearly straight; columellar margin arched, aperture much expanded.

LOVEN. Ind. Moll. Scand., p. 9.

Hab. Greenland.

More quadrate in form than *Philine catena*, and having the whorls bordered with two thickened bands.

Species 7. (Fig. *a*, *b*, Mus. Jeffreys.)

PHILINE NITIDA. *Ph. testâ minutâ, oblongo-subquadratâ, politâ, aperturâ posticè subcontractâ, anticè expansâ, subrotundatâ; labio externo posticè depresso, vix angulato; spirâ haud cælatâ.*

THE SHINING PHILINE. Shell minute oblong-subquadrate, smooth, aperture posteriorly subcontracted, anteriorly expanded, a little rounded; outer lip posteriorly depressed, very little angulated; spire not hidden.

JEFFREYS. British Conchology.

Hab. British Isles.

Species 8. (Mus. Cum. in Brit.)

PHILINE CATENA. *Ph. testâ parvâ, albâ, ovato-subpyramidatâ, spiraliter minutè cateniferâ, aperturâ posticè contractâ, anticè subexpansâ, labio externo posticè rotundo, haud elevato; anfractu penultimo subfusiformi.*

THE CHAIN PHILINE. Shell small, white, ovately-subpyramidal, spirally minutely chain-marked, aperture posteriorly contracted, anteriorly a little expanded, outer lip posteriorly rounded, not elevated; penultimate whorl rather fusiform.

MONTAGUE. (Bullæa). Testacea Britannica, pl. 7, f. 7.

Bullæa catenulifera. Macgillivray.

Hab. British Islands.

This little shell must not be confounded with the *Scaphander scabra*, or *pectinata*, which is ornamented by a similar chain-like sculpture, but which is much more Scaphander-like in form, and has protruding denticles on the outer edge of the lip.

Species 9. (Mus. Cum. in Brit.)

PHILINE PUNCTATA. *Ph. testâ ovato-oblongâ, tenuissimâ, albâ, pellucidâ, nitidâ, lineis punctatis spiralibus sculptâ, posticè contractâ, obtusâ, vix umbilicatâ, anticè expansâ, rotundatâ.*

THE PUNCTURED PHILINE. Shell ovate-oblong, very thin, white, pellucid, smooth, sculptured with spiral lines, posteriorly contracted, obtuse, scarcely umbilicated, anteriorly expanded, rounded.

A. ADAMS. Trans. Linn. Soc., pl. 1, f. 6-8.

Hab. Great Britain.

Species 10. (Mus. Cum. in Brit.)

PHILINE PRUINOSA. *Ph. parvâ, subglobosâ, bifasciatim subpruinosâ, minutissimè reticulatâ, supra medium subconstricta; margine columellari valdè arcuato subreflexo.*

THE PLUM-COLOURED PHILINE. Shell small, subglobose, plum-coloured in two bands, a little constricted above the middle, very minutely reticulated, columellar margin much arched, subreflected.

CLARK. (Bullæa) Zoological Journal, 1827, p. 339.

Hab. Great Britain.

Species 11. (Mus. Cum. in Brit.)

PHILINE ORIENTALIS. *Ph. testâ magnâ, albâ, subcompressâ, ovato-rotundatâ, crassiusculâ, subopacâ, con-*

centricè subliratâ; aperturâ latissimâ, labio externo posticè subproducto, anticè rotundato, margine columellari valdè excavato.

THE ORIENTAL PHILINE. Shell large, white, subcompressed, ovately rounded, rather thick, somewhat opaque, concentrically ridged; aperture very wide, outer lip posteriorly slightly produced, anteriorly rounded, columellar margin much excavated.

ADAMS. MS. Mus. Cum.

Hab. ——?

Wider and of a more rounded oval form than *Ph. aperta, Angasii*, &c.

Species 12. (Fig. *a*, *b*, Mus. Jeffreys.)

PHILINE ANGULATA. *Ph. testâ parvâ, subquadratâ, subcompressâ, diaphanâ, posticè fasciâ opacâ rimatâ; spinâ partim conspicuâ, truncatâ; labio externo posticè depresso, cuneato, anticè obliquè truncato.*

THE ANGULAR PHILINE. Shell small, subquadrate, subcompressed, diaphanous, posteriorly bordered with an opaque band; spire partly visible, truncated; outer lip posteriorly rather depressed, cuneated, anteriorly obliquely truncated.

JEFFREYS. British Conchology.

Hab. Great Britain.

Species 13. (Mus. Jeffreys.)

PHILINE QUADRATA. *Ph. testâ parvâ, albâ, subquadratâ, posticè contractâ, truncatâ, anticè expansâ, latè truncatâ, subangulatâ; anfractu ultimo subventricoso, margine columellari subtortuo, excavato, tenuissimo.*

THE QUADRATE PHILINE. Shell small, white, subquadrate, posteriorly contracted, truncated, anteriorly expanded, widely truncated, rather angular; last whorl rather ventricose, columellar margin slightly tortuous, excavated, very thin.

JEFFREYS. British Conchology.

Hab. Great Britain.

MONOGRAPH

OF THE GENUS

BULLINA.

"Like the long waves on a sea-beach,
Where the sand as silver shines,
With a soft monotonous cadence
Flows its unrhymed lyric lines."—*Longfellow.*

1.

2. a.

2. b.

3.

4. a.

4. b.

5.

Sowerby del et lith.

Vincent Brooks, Day & Son, Imp.

BULLINA.

Genus BULLINA, *Férussac.*

Testa Bullæformis, plerumque solida, ovata, spiraliter sulcata, post columellam subumbilicata; spirâ exsertâ; columellâ plus minusvè tortuâ.

Shell Bulla-shaped, generally solid, ovate, spirally sulcated, slightly umbilicated behind the columella; spire produced; columella more or less tortuous.

Three species of this genus were published in Mr. A. Adams's Monograph, from Japan, Ceylon, and Australia. The two species now added are from the Sandwich Islands. In the solidity of the grooved shell and the exsertion of spire, the *Bullinæ* differ from the generality of the family. The animal does not appear to be yet known.

Species 1. (Mus. Cuming in Brit.)

BULLINA SCABRA. *Bul. testâ ovatâ, scabrâ, spiraliter tenuissimè liratâ, striis longitudinalibus decussatâ; albidâ, lineis binis perdistantibus spiraliter cinctâ, lineis flammatis undatis roseis longitudinaliter ornatâ; spirâ parùm elevatâ, obtusâ; columellâ sinuosâ reflexâ.*

THE SCABROUS BULLINA. Shell ovate, scabrous, spirally very finely lirated, decussated with longitudinal striæ; whitish, girt with two very distant spiral lines, longitudinally ornamented with red flame-like, undulated lines; spire a little elevated, obtuse; columella sinuous, reflected.

CHEMNITZ. Conchology, tab. 146, f. 1352, 1353.

Hab. Japan.

The *scabrous Bullina* differs from the lineated one in the minute decussation of the ribs and in being more ovate in form. The longitudinal lines are also continuous, and more flame-like.

Species 2. (Fig. *a*, *b*, Mus. Sowerby.)

BULLINA LINEATA. *Bul. testâ subovatâ, ventricosâ, luteo-vel roseo-albâ, lineis rubris vividis duabus spiraliter et alteris longitudinalibus, subundatis, distantibus, disjunctis ornatâ, spiraliter costatâ, costis lævigatis, interstitiis punctatis; spirâ obtusâ, subelevatâ, columellâ uniplicatâ, tortuâ.*

THE LINEATED BULLINA. Shell subovate, ventricose, yellowish or rosy white, ornamented with two bright red lines and others longitudinal, slightly waved distant, disjoined; spire obtuse, rather elevated; columella uniplicate, tortuous.

WOOD (Bulla). Ind. Test., suppl. pl. 3.

Bulla undata, Bruguière.

Hab. Australia.

Instead of the scabrous striæ of the last species, we have here smooth ribs with punctured interstices.

Species 3. (Mus. Cuming in Brit.)

BULLINA BRUGUIERI. *Bul. testâ oblongo-ovatâ, pallidâ, fasciis carmineis duabus latis spiraliter cinctâ, inter fascias lineis arcuatis rubris distantibus notatâ; spiraliter costatâ, costis scabris, planulatis, interstitiis lineis elevatis decussatâ; spirâ prominulâ; apicè obtuso, anfractibus tribus rotundis; aperturâ antice productâ; labio acuto intùs sulcato, columellâ reflexâ elongatâ, tortuâ.*

BRUGUIÈRE'S BULLINA. Shell oblong-ovate, pale, spirally girt with two broad bands of carmine, marked between the bands with distant arched red lines; spirally ribbed, ribs scabrous, flattened, interstices decussated with elevated lines; spire rather prominent; apex obtuse, with three rounded whorls; aperture anteriorly produced; outer lip acute, sulcated within, columella reflected elongated, tortuous.

A. ADAMS. Sowerby's Thesaurus Conchyliorum. Bulla, No. 3.

Hab. Ceylon.

Instead of the distant spiral red lines of *Bullina lineata*, this species presents two broad bands.

Species 4. (Mus. Brit.)

BULLINA VITRÆA. *Bul. testâ, ovatâ, tenui, pellucidâ, scabrâ, spiraliter tenuiter costatâ, albidâ, nonnumquam lineis duabus spiralibus distantibus griseis notatâ; columellâ truncatâ, spirâ breviusculâ.*

THE GLASSY BULLINA. Shell ovate, thin, pellucid, scabrous, spirally finely ribbed, whitish, sometimes marked with two spiral distant grey lines; columella truncated, spire rather short.

PEASE. ——?

Hab. Sandwich Islands.

There are two specimens of this very pellucid shell in the case at the British Museum, one only of which has the two spiral distant lines.

Species 5. (Mus. Brit.)

BULLINA LAUTA. *Bul. testâ ovatâ, obtusâ, spiraliter bilineatâ, longitudinaliter undato-lineatâ, spiraliter tenuiter costatâ; spirâ brevissimâ, obtusâ, columellâ tortuâ:*

THE NEAT BULLINA. Shell ovate, obtuse, spirally bilineated, longitudinally wavily lineated, spirally finely ribbed; spire very short, obtuse, columella tortuous.

PEASE. ——?

Hab. Sandwich Islands.

The peculiar shortness and obtuseness of the spire, and the comparative closeness of the sculpture, may be sufficient to distinguish this species from the preceding.

MONOGRAPH

OF THE GENUS

NUCULA.

"Within the shadow of the ship
I watch'd their rich attire—
Blue, glossy green, and velvet black."—*Coleridge.*

1.a.

2.a.

3.b.

3.a.

2.b.

4.

5.

6.

7.

1.b.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

NUCULA.

PLATE I.

Genus NUCULA, LAMARCK.

Testa bivalvis, bimusculosa, plus minùsve ovato-trigona, utrinque plerumque clausa, epidermide indutâ; latere postico breviore, apicibus versus lateram posticum inclinatis; intùs margaritaceâ, margine cardinali dentibus numerosis acutis exstantibus seriatim depositis utrinque armatâ; ligamentum externum nullum. Cartilago elastica in foveam medianum deposita.

Shell bivalve, bimuscular, more or less ovately triangular, generally closed at both ends, covered with an epidermis; posterior side shorter, with apices turned towards the posterior side; pearly within, the hinge margin armed with numerous sharp out standing teeth placed in a row on each side; no external pit. An elastic cartilage placed in a central pit.

The thirty-three species included in the genus restricted as above, form a very fairly circumscribed group. The shortness of the posterior side towards which the apex turns in all the species, and the closed, or nearly closed margins, together with the general appearance, make every *Nucula* distinguishable at a glance from *Lædæ*, *Yoldiæ*, &c. The geographical range of true *Nuculæ* is perhaps wider than that of other genera of the same family. Our own seas produce five, of which several are also tenants of the Mediterranean and Ægean Seas. One or two reach the Arctic circle, while several others extend southwards to our antipodes. China and Japan in the east balance N. America in the west: each contributes its quota to the little group.

Species 1. (Mus. Cuming in Brit.)

NUCULA CONVEXA. *Nuc. testâ obliquè ovatâ, solidâ, lævigatâ, convexâ, fulvâ, cæruleo pallidè fasciatâ, concentricè obsoletè liratâ; latere postico subangulato, subproducto, rotundo; latere antico obliquè producto, margine dorsali convexo, margine ventrali anticè convexo; apicibus rotundis, epidermide ignotâ.*

THE CONVEX NUCULA. Shell obliquely ovate, solid, smooth, convex, fulvous, lightly banded with blue, concentrically obsoletely ridged; posterior side subangular, a little produced, rounded; anterior side obliquely produced, dorsal margin convex, ventral margin anteriorly convex; apices rounded; epidermis unknown.

SOWERBY. Conc. Illust., f. 2, Thes. Conc. Hanley on Nucula, p. 28.

Hab. China (Straits of Malacca).

A smooth, full shell, only known by specimens from which the epidermis has been removed.

Species 2. (Mus. Sowerby.)

NUCULA NUCLEUS. *Nuc. testâ trigonâ, subelevatâ, sublævigatâ, obscurè tenuissimè striatâ et ad margines laterales concentricè liratâ, subventricosâ, solidâ; latere postico brevi, subperpendiculari, angulato; latere antico acuminatim producto, margine dorsali declivi. Intùs margine ventrali crenato.*

THE NUT NUCULA. Shell trigonal, subelevated, rather smooth, obscurely very finely striated and concentrically lirated at the lateral margins, rather ventricose, solid; posterior side short, rather perpendicular, angulated; anterior side acuminately produced, dorsal margin sloped. Ventral margin crenulated within.

LINNÆUS (Arca), Systema Naturæ.

Glycimeris argentæa, Da Costa.

Nucula Margaritacea, Lamarck.

Hab. British and European Seas.

Species 3. (Mus. Sowerby, &c.)

NUCULA DECUSSATA. *Nuc. testâ, solidâ, trigonâ, elevatâ, subcompressâ, rugis concentricis et striis radiantibus decussatâ; margine ventrali crassè crenato; lunulâ magnâ, convexâ, medio lævigatâ, margine corrugato; apicibus elevatis, subacuminatis, lateribus declivis.*

THE DECUSSATED NUCULA. Shell solid, trigonal, elevated, rather compressed, decussated with concentric ridges and radiating striæ; ventral margin thickly crenated; lunule large, convex, smooth in the middle, corrugated at the margin; apices elevated, subacuminated, sides sloped.

SOWERBY. Conc. Illust., f. 18. Thes. Conc. Hanley, Sp. 1.

Nucula sulcata, Philippi.

Hab. British and Mediterranean Seas.

Species 4. (Mus. Cuming in Brit.)

NUCULA MIRABILIS. *Nuc. testâ obliquè trigonâ, subcompressâ, solidâ; divaricatim costellatâ, costellis angulos acutos in medio testæ formantibus; latere postico brevi, obscurè biangulatâ; latere antico obliquè acuminatim producto.*

THE WONDERFUL NUCULA. Shell obliquely trigonal, subcompressed, solid; divergently ribbed; riblets forming acute angles in the middle of the shell; posterior side short, obscurely biangular; anterior side obliquely acuminately produced.

ADAMS AND REEVE. Zool. Samarang, 75, pl. 21, f. 8.

Hab. Japan.

The sculpture of this shell is very beautiful. It is one of the largest species.

Species 5. (Mus. Cuming in Brit.)

NUCULA CUMINGII. *Nuc. testâ ovatâ, utrinque subacuminatâ, subcompressâ, lævigatâ; latere postico acuminatim producto, lunulâ parvâ lanceolatâ, planulatâ; apice acuminato; margine ventrali semicirculari; latere antico producto, ad terminum subacuminato, margine dorsali subcrenulato, aream impressâ ad marginem convexâ.*

CUMING'S NUCULA. Shell ovate, subacuminated at each end, subcompressed, smooth; posterior side acuminately produced, lunule small, lanceolate, flattened; apex acuminated; ventral margin semicircular; anterior side produced, a little acuminated at the end; dorsal margin slightly crenulated; with an impressed margin convex at the margin.

HINDS. Proc. Zool. Soc., 1843, p. 97.

Hab. Indian Archipelago.

A very smooth shell, in which the posterior side is a little more produced than usual, and in which both ends are acuminated.

Species 6. (Mus. Cuming in Brit.)

NUCULA INFLATA. *Nuc. testâ ovato-subrotundâ, lævigatâ, inflatâ, obtusâ; latere postico breviusculo, lunulâ indistinctâ, planulatâ, apice obtuso, margine ventrali convexo; latere postico obliquè tumido, vix angulato, margine dorsali valdè convexâ.*

THE INFLATED NUCULA. Shell ovately subrotund, smooth, inflated, obtuse; posterior side rather short, lunule indistinct, flattened, apex obtuse, ventral margin convex; posterior side obliquely tumid; scarcely angular; dorsal margin very convex.

HANDCOCK. Ann. of Nat. Hist., 1846, p. 333, pl. 5, f. 13, 14.

Nucula obliquata, Beck.

Hab. Arctic Seas.

More swollen, obtuse, and tumid than *Nucula tenuis*, which it otherwise resembles.

Species 7. (Mus. D'Orbigny in Brit.)

NUCULA PUELCHA. *Nuc. testâ obliquè donaciformi, solidâ, inflatâ; lævigatâ, albidâ, versùs marginem ventralem et ad latera concentricè rugatâ; latere postico brevissimo, truncato; apice obtuso; latere antico obliquè producto; margine ventrali anticè obliquè convexo.*

THE PUELCHA NUCULA. Shell obliquely donaciform, solid, inflated; smooth, whitish, concentrically wrinkled towards the ventral margin and at the sides; posterior side very short, truncated; apex obtuse; anterior side obliquely produced; ventral, margin anteriorly obliquely convex.

D'ORBIGNY. Amér. Mérid., 624, pl. 84, f. 24–6.

Hab. San Blas, Puelcha, &c., N. Patagonia, Central America

An oblique donaciform shell, much inflated towards the anterior side.

8. a.

9.

10.

11.

12.

13.

14.

15.

16.

8. b.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

NUCULA.

PLATE II.

Species 8. (Fig. *f, a, b*, Mus. Sowerby.)

NUCULA MITRALIS. *Nuc. testâ obliquè donaciformi, ventricosâ, nitidissimâ; latere postico elongato, margine dorsali denticulato, convexo-declivi, depressâ; termino acuminato, margine ventrali sursùm acclivi, umbonibus elevatis, terminalibus, latere antico brevissimo, truncato.*

THE MITRE NUCULA. Shell obliquely wedge-shaped, ventricose, very smooth; posterior side elongated, dorsal margin denticulated, convexly sloped, depressed; end acuminated, ventral margin sloped upwards, umboes elevated, terminal, anterior side very short, truncated.

HINDS. Proc. Zool. Soc., 1843.

Nucula gibba, A. Adams.

Hab. Straits of Malacca, *Hinds*. Australia, *Strange*.

Species 9. (Mus. Cuming in Brit.)

NUCULA STRIOLATA. *Nuc. testâ planiusculâ, subtrigonâ, pallidè olivaceâ, obliquâ, minutissimè radiatim striatâ, latere postico producto, margine dorsali declivi, termino subacuminato, margine ventrali convexiusculo; latere antico brevi, areâ lunulari prominulâ.*

THE STRIOLATED NUCULA. Shell rather flattened, subtrigonal, pale olive, oblique, very minutely radiately striated; posterior side produced, dorsal margin sloped, end subacuminated; ventral margin rather convex; anterior side short, lunular area prominent.

A. ADAMS. Proc. Zool. Soc., 1856, p. 53.

Hab. New Zealand.

Species 10. (Mus. Cuming in Brit.)

NUCULA SULCATA. *Nuc. testâ obliquâ, subovatâ, crassâ, ventricosâ, sulcis flexuosis undatis concentricè sculptâ; latere postico subtrigono, margine dorsali declivi; latere antico breviusculo; lunulâ parvâ; umbonibus prominentibus, obliquis, amplis.*

THE SULCATED NUCULA. Shell oblique, subovate, thick, ventricose, sculptured concentrically with flexuous, undated sulci, posterior side subtrigonal, dorsal margin sloped; anterior side rather short; lunule small; umboes prominent, oblique, full.

A. ADAMS. Proc. Zool. Soc., 1856, p. 53.

Hab. New Zealand.

Species 11. (Mus. Cuming in Brit.)

NUCULA BELOTTII. *Nuc. testâ inflatâ, tenui, brevi, elevatâ, nitidissimâ, olivaceo-virescenti, ad umbones lævigatis, medio et infra tenuiter concentricè rugatâ; latere postico lato, margine dorsali declivi, angulato, termino rotundo, obtuso; latere antico brevi, truncato; lunulâ elongatâ convexâ; margine ventrali posticè valdè convexo, umbonibus elevatis, obliquis, subterminalibus.*

BELOTT'S NUCULA. Shell inflated, thin, short, elevated, very shining, olive-green, smooth at the umboes, finely concentrically wrinkled in and below the middle; posterior side wide, dorsal margin sloped, angular, end rounded, obtuse; anterior side short, truncated; lunule elongated, convex; ventral margin posteriorly very convex; umboes elevated, oblique, subterminal.

A. ADAMS. Proc. Zool. Soc., 1856.

Hab. Arctic Ocean.

Species 12. (Mus. Sowerby.)

NUCULA RADIATA. *Nuc. testâ obliquè donaciformi, solidâ, concentricè ad latera tenuissimè liratâ, radiatim roseo fasciatâ; latere postico obliquè producto, infrà medium ad terminum subacuminato, margine dorsali usque ad terminum convexo-declivi, margine ventrali acclivi, medio convexo, umbonibus subterminalibus, elevatis, latere antico truncato, lunulâ vix convexâ.*

THE RAYED NUCULA. Shell obliquely wedge-shaped, solid, concentrically very finely ridged at the sides, rayed with pink; posterior side obliquely produced, subacuminated at the end lower than the

centre, dorsal margin convexly sloped as far as the termination, ventral margin sloped upwards, convex in the middle; umboes subterminal, elevated, anterior side truncated, lunule scarcely convex.

HANLEY. Sowerby's Thesaurus Conchyliorum, Nucula, sp. 4, fi 123, 124.

Arca nucleus, Turton.

Nucula Magaritacea, Sowerby.

Hab. Britain; S. Europe.

More compressed and more obliquely produced than *Nucleus*. Some specimens occur in which the cuticle is very dark, totally obscuring the rays.

Species 13. (Mus. Cuming in Brit.)

NUCULA GRAYI. *Nuc. testâ ovatâ, valdè transversâ, utrinquè subacuminatâ, tenui, subinflatâ, nitidissimâ, olivaceâ, latere postico producto, areâ dorsali compressâ, elevatâ, subalæformi, termino acuminato; latere antico subproducto, cuneato, lunulâ brevi, circumscriptâ.*

GRAY'S NUCLEUS. Shell ovate, very transverse, slightly acuminated at both ends, thin, rather inflated, very smooth, olive; posterior side produced, dorsal area compressed, elevated, subaliform, end acuminated; anterior side a little produced, cuneated; lunule short, defined.

D'ORBIGNY. Amérique Meridionale, p. 53.

Hab. New Zealand.

Species 14. (Mus. Cum. in Brit.)

NUCULA OBLIQUA. *Nuc. testâ solidâ, magnâ, obliquè ovatâ, subcompressâ, sublævigatâ, haud radiatâ, intùs argenteâ; latere postico ovato; latere antico truncato, umbonibus terminalibus.*

THE OBLIQUE NUCULA. Shell solid, large, obliquely ovate, subcompressed, rather smooth, not rayed, silvery within; posterior side produced, ovate, anterior side truncated, umboes terminal.

LAMARCK. Animaux sans vertébres.

Hab. Australia.

A larger and more solid shell than *Nucula radiata*, and more ovate in general form. It is not at all rayed.

Species 15. (Mus. Sowerby.)

NUCULA STRANGEI. *Nuc. testâ obliquâ, tenui, oblongâ, aureo-subolivaceâ, nitidâ, vix concentricè striatâ; latere postico producto, margine dorsali compressâ, subulatâ, margine ventrali post medium convexâ; latere antico angustiùsculo, brevi, cuneato, lunulâ parvâ.*

STRANGE'S NUCULA. Shell oblique, thin, oblong, golden-olivaceous, smooth, scarcely concentrically striated; posterior side produced, dorsal margin compressed, subulate, ventral margin convex past the middle, anterior side rather narrow, short, cuneated, lunule small.

A. ADAMS. Proc. Zool. Soc., 1856, p. 52.

Hab. New Zealand.

Species 16. (Mus. Sowerby.)

NUCULA NITIDA. *Nuc. testâ obliquè subtrigonâ, subcompressâ, luteâ, griseo fasciatâ, obsoletissimè concentricè et radiatim striatâ, latere postico subacuminato, margine dorsali vix arcuato, declivi, margine ventrali leviter convexo; umbonibus elevatis; latere antico infrà cuneato, lunulâ indistinctâ.*

THE SHINING NUCULA. Shell obliquely subtrigonal, subcompressed, yellowish, banded with grey very obsoletely concentrically and radiately striated, posterior side subacuminated, dorsal margin scarcely arched, sloped, ventral margin slightly convex, lunule indistinct.

SOWERBY. Conchological Illustrations, Nucula, No. 29.

Hab. Britain, &c.

17. a.

18. a.

18. b.

19.

20.

21.

23.

22. a.

22. b.

17. b.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

NUCULA.

PLATE III.

Species 17. (Fig. *a*, *b*, Mus. Sowerby.)

NUCULA PROXIMA. *Nuc. testâ parviusculâ, crassâ, subtrigonâ, elevatâ, ventricosâ, olivaceo-cinereâ, minutè concentricè liratâ; latere postico obliquè subacuminato, angulato, post aream subplanato, umbonibus tumidis, elevatis, subterminalibus; latere antico angusto, brevissimo, lunulâ prominenti, brevi, sulco circumscriptâ.*

THE NEIGHBOURING NUCULA. Shell rather small, thick, rather trigonal, elevated, ventricose, ashy-olive, minutely concentrically lyrated; posterior side obliquely subacuminated, angular, rather flattened behind the angle; umboes tumid, elevated, subterminal; anterior side narrow, very short, lunule prominent, short, circumscribed by a groove.

SAY. Journal of Natural History Society, Philadelphia, vol. ii. p. 270.

Hab. N. America.

Species 18. (Fig. *a*, *b*, Mus. Cuming in Brit.)

NUCULA DELPHINODENTA. *Nuc. testâ minutâ, subobliquâ, subtrigonâ, brevi, altâ, ventricosâ, lævigatâ, concentricè minutè striatâ; umbonibus prominentibus; latere postico subrotundo; latere antico brevissimo, lunulâ amplâ, elongatâ.*

THE DOLPHIN-TOOTHED NUCULA. Shell minute, suboblique, subtrigonal, short, elevated, ventricose, smooth, concentrically minutely striated; umboes prominent; posterior side somewhat rounded; anterior side very short, lunule full, elongated.

MIGHELS. Boston Journal of Natural History, iv. p. 40.

Hab. N. America.

Species 19. (Mus. Cuming in Brit.)

NUCULA CASTANEA. *Nuc. testâ perobliquâ, brevi, elevatâ, compressâ, lævigatâ, castaneâ; latere postico valdè declivi, infra subacuminatâ; umbonibus parvis, terminalibus; latere antico ad marginem ventralem acclivi, lunulâ parvâ.*

THE CHESTNUT NUCULA. Shell very oblique, short, elevated, compressed, smooth, chestnut-coloured; posterior side much sloped, subacuminated below; umboes small, terminal; anterior side sloped upwards at the ventral margin, lunule small.

A. ADAMS. Proc. Zool. Soc., 1856, p. 53.

Hab. New Zealand.

Species 20. (Mus. Cuming in Brit.)

NUCULA TENUIS. *Nuc. testâ ovatâ, inflatâ, tenui, nitidissimâ; latere postico obliquè declivi, margine dorsali subangulato, subarcuato, termino subacuminato; latere antico brevissimo, lunulâ haud prominenti, elongatâ.*

THE THIN NUCULA. Shell ovate, inflated, thin, very shining; posterior side obliquely sloped, dorsal margin angular, slightly arched, end subacuminated; anterior side very short, lunule not prominent, elongated.

MONTAGU. Testacea Britannica, sup. p. 56, pl. 29, f. 1.

Hab. Britain, Europe.

Species 21. (Mus. Cuming in Brit.)

NUCULA SIMPLEX. *Nuc. testâ ovatâ, lævigatâ, pallidâ, tenuissimâ, inflatâ; latere postico producto; margine dorsali declivi, convexa; latere antico brevissimo, truncato, umbonibus parvis, terminalibus; lunulâ parvâ, brevi.*

THE SIMPLE NUCULA. Shell ovate, smooth, pale, very thin, inflated, posterior side produced, dorsal margin sloped, convex, anterior side rather short, truncated, umboes small, terminal, lunule small, short.

A. ADAMS. Proc. Zool. Soc., 1856, p. 52.

Hab. Sidney, Australia.

Species 22. (Fig. *a*, *b*, Mus. Sowerby.)

NUCULA PAULULA. *Nuc. testâ minutâ, elevatâ, obliquè subtrigonâ, lævigatâ, tenuissimâ, subcinereâ; latere postico valdè declivi, prope marginem dorsalem an-*

gulato, ad terminum subacuminatum, latere antico subrecedente, umbonibus terminalibus, elevatis, lunulâ parvâ.

THE LITTLE NUCULA. Shell minute, elevated, obliquely subtrigonal, smooth, very thin, of a rather ashy colour; posterior side much sloped, angular near the dorsal margin, subacuminated at the end; anterior side rather receding, umboes terminal, elevated, lunule small.

A. ADAMS. Proc. Zool. Soc., 1856, p. 52.

Hab. Japan.

This very minute *Nucula* is of a pale ashy colour, and semi-pellucid.

Species 23. (Mus. Cuming in Brit.)

NUCULA PAYTENSIS. *Nuc. testâ obliquè oblongâ, subtrigonâ, compressâ, solidâ, minutè liris concentricis crenulatis et striis radiantibus decussatâ; latere postico declivi, vix convexo, termino infrà subacuminato, margine ventrali leviter convexâ; umbonibus terminalibus elevatis; latere antico truncato.*

THE PAYTI NUCULA. Shell obliquely oblong, subtrigonal, compressed, solid, minutely decussated with concentric crenulated ridges and radiating striæ; posterior side sloped, scarcely convex, the end subacuminated below, ventral margin slightly convex; umboes terminal, elevated; anterior side truncated.

A. ADAMS. Proc. Zool. Soc., 1856, p. 51.

Hab. Payti, Peru.

More oblong, compressed, and distinctly decussated than *Nucula crenulata*, with which M. Hanley at first associated it.

24.

25. a.

25. b.

26.

27.

28.

29.

30.

31.

32.

NUCULA.

PLATE IV.

Species 24. (Mus. Cuming in Brit.)

NUCULA PISUM. *Nuc. testâ minutissimâ, ventricosâ, brevi, subobliquè ovatâ, pallidè olivaceâ vix nitidâ, rugis elevatis, crenulatis, concentricis et striis radiantibus decussatâ; latere antico subtruncato, lunulâ amplâ.*

THE PEA NUCULA. Shell very minute, ventricose, short, subobliquely ovate, pale olive, scarcely shining, decussated with elevated concentric, crenulated wrinkles and radiating striæ; anterior side subtruncated, lunule full.

SOWERBY. Proc. Zool. Soc., 1832.

Nucula semi-ornata, D'Orbigny.

Hab. Valparaiso, Chili.

Species 25. (Fig. *a*, *b*, Mus. Cuming in Brit.)

NUCULA CRENULATA. *Nuc. testâ minutâ, obliquè subtrigonâ, rugis elevatis numerosis concentricis et striis radiantibus decussatâ; latere postico valdè declivi, margine dorsali convexo, crenulato; latere antico brevissimo, umbonibus amplis, elevatis, tumidis; lunulâ amplâ, crenulatâ.*

THE CRENULATED NUCULA. Shell minute, obliquely subtrigonal, decussated with numerous elevated concentric wrinkles and radiating striæ; posterior side much sloped, dorsal margin convex, crenulated; anterior side very short, umboes full, elevated, tumid; lunule full, crenulated.

A. ADAMS. Proc. Zool. Soc., 1860.

Hab. Guadaloup.

Species 26. (Mus. Cuming in Brit.)

NUCULA EXIGUA. *Nuc. testâ minutâ, brevi, altâ, subtrigonâ, minutissimè decussatâ; latere postico infrà acuminato; latere antico truncato.*

THE NARROW NUCULA. Shell minute, short, elevated, subtrigonal, very minutely decussated; posterior side acuminated below; anterior side truncated.

SOWERBY. Proc. Zool. Soc., 1832, p. 198.

Hab. West Columbia.

Species 27. (Mus. Cuming in Brit.)

NUCULA NITIDULA. *Nuc. testâ parvâ, obliquè trigonâ, altâ, brevi, lævigatâ, olivaceo-cinereâ; latere postico valdè declivi, ad terminum inferiorem subacuminatâ; latere antico truncatâ, recedenti, lunulâ convexâ, angulatim circumscriptâ, elongatâ.*

THE BRIGHT LITTLE NUCULA. Shell small, obliquely trigonal, elevated, short, smooth, olive-ash coloured; posterior side much sloped, subacuminated at the lower termination; anterior side truncated, receding; lunule very little convex, elongated, angularly defined, circumscribed, elongated.

A. ADAMS. Proc. Zool. Soc., 1856, p. 51.

Hab. New Zealand.

Species 28. (Mus. Macandrew.)

NUCULA MACANDREI. *Nuc. testâ ovatâ, lævigatâ, tenui, utrinque subacuminatâ, omninò olivaceâ; latere postico producto latiusculo, margine dorsali subcuneato, areâ marginali depresso, subalato; latere antico acuminatim paulo producto, angusto; umbonibus acuminatis.*

MACANDREW'S NUCULA. Shell ovate, smooth, thin, subacuminated at both ends, olive in every part; posterior side produced rather wide, dorsal margin a little cuneate, marginal area depressed, subalate; anterior side acuminately a little produced, narrow; umboes acuminated.

HANLEY. Proc. Zool. Soc., 1856, p. 52.

Hab. Straits of Malacca. Australia.

A much less oblique shell than *Nucula tenuis*, with the anterior side a little produced.

Species 29. (Mus. Cuming in Brit.)

NUCULA DIVARICATA. *Nuc. testâ ellipticâ, compressâ, liris a medio divergentibus sculptâ; latere postico oblongo, areâ dorsali compressâ, termino rotundo; latere antico acuminato, paulo producto, margine lunulari excavatim depresso.*

THE DIVERGENT NUCULA. Shell elliptical, compressed, sculptured with ridges diverging from the centre; posterior side oblong, dorsal area compressed, end rounded; anterior side acuminated, a little produced, lunular margin excavately depressed.

HINDS. Proc. Zool. Soc., 1843, p. 97.

Hab. Chinese Seas.

In sculpture resembling *Nucula mirabilis*, but more cuneate, with the anterior end more produced and acuminated.

Species 30. (Mus. Belcher.)

NUCULA MARMOREA. *Nuc. testâ ellipticâ, solidulâ, albidâ, sulcatâ, marmoratâ; liris ad angulum planulatis; latere postico brevi, subacuminato, margine ventrali minutè crenulato.*

THE MARBLE NUCULA. Shell elliptical, rather solid, whitish, sulcated, marbled; ridges flattened at the angles; posterior side short, subacuminated, ventral margin minutely crenulated.

HINDS. Proc. Zool. Soc., 1843, p. 98.

Hab. Straits of Malacca.

The description of this species as given by the late Mr. Hinds is so short, that in the absence of the specimen the precise characters cannot be stated with certainty.

Species 31. (Mus. Belcher.)

NUCULA DECLIVIS. *Nuc. testâ parvâ, obliquè subtrigonâ, solidulâ, epidermide tenui indutâ; latere postico valdè declivi, ad terminum rotundo; latere antico brevi, obtuso; umbonibus elevatis, rotundis.*

THE SLOPING NUCULA. Shell small, obliquely subtrigonal, solid, covered with a thin epidermis; posterior side much sloped, rounded at the end, anterior side short, obtuse, umbones elevated, rounded.

HINDS. Proc. Zool. Soc., 1843, p. 98.

Hab. —— ?

Species 32. (Mus. Belcher.)

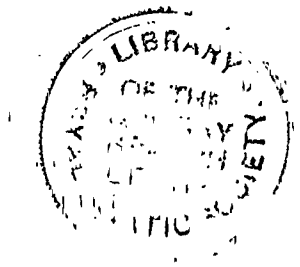
NUCULA CASTRENSIS. *Nuc. testâ parvâ, elevatâ, subtrigonâ, lineis elevatis à mediò divergentibus sculptâ, pallidè stramineâ fusco rubescente fasciatâ; latere postico declivi, antico subconvexo.*

THE CAMP NUCULA. Shell small, elevated, subtrigonal, sculptured with raised lines diverging from the centre, pale straw banded with reddish brown; posterior side sloped, anterior side rather convex.

HINDS. Proc. Zool. Soc., 1843, p. 98.

Hab. North-West America.

With the subtrigonal form of many of the smaller species, this pretty little shell has the sculpture of *Nucula mirabilis* and *N. divaricata*.



33. a.

34.

35.

36.

37. a.

37. b.

38.

39. a.

39. b.

33. b.

Sowerby, del et lith.

Vincent Brooks Day & Son, Imp.

NUCULA.

PLATE V.

Species 33. (Mus. Sowerby.)

NUCULA NANA. *Nuc. testâ parvâ, nitenti, olivaceâ, obliquè trigonâ, elevatâ, prope umbones tumidâ, medio subcomplanatâ, intùs subaureâ; latere postico brevissimo, perpendiculari, apice obtuso; latere antico obliquo, obtusè angulato, convexo.*

THE DWARF NUCULA. Shell small, shining, olivaceous, obliquely trigonal, elevated, tumid near the umboes, rather flattened in the middle, slightly golden tinted within; posterior side very short, perpendicular, apex obtuse; anterior side oblique, obtusely angular, convex.

HINDS. Voyage of the *Sulphur*.

Nucula Delphinodonta, var. Hanley.

The little shell figured in Thesaurus certainly appears different from *N. Delphinodonta*, and much more like the specimens figured in this plate, although I cannot be quite certain as to the identity.

Species 34. (Mus. Brit.)

NUCULA MALABARICA. *Nuc. testâ parvâ, trigonâ, subæquilaterali, pallidâ, tenui, concentricè tenuiter liratâ, elevatâ; latere postico breviusculo, infrà rotundato-subangulato; apice elevato, acuminato, margine ventrali subproducto, infrà acuminato, lateribus declivibus; margine cardinali lato, dentibus paucis.*

THE MALABAR NUCULA. Shell small, trigonal, subequilateral, pale, thin, concentrically finely lirated, elevated; posterior side rather the shorter, roundly angular below; apex elevated, acuminated, ventral margin slightly produced, acuminated below, sides sloped; hinge margin broad, teeth few.

HANLEY. Proc. Zool. Soc., 1860.

Hab. Cochin, Malabar.

A very small elevated shell, more nearly equilateral than most of the species.

Species. 35. (Mus. Hanley.)

NUCULA ÆGEENSIS. *Nuc. testâ ovatâ, subcompressâ, lævi, tenui, pallidâ, politâ; latere postico subproducto, subrotundo, lunulâ brevi, convexo, distincto; apice prominenti, margine ventrali æqualiter convexâ; latere antico producto, acuminato, margine dorsali recto.*

THE ÆGEAN NUCULA. Shell ovate, subcompressed, smooth, thin, pale, polished; posterior side a little produced, a little rounded, lunule short, convex, distinct; apex prominent, ventral margin equally convex; anterior side produced, acuminated, dorsal margin straight.

FORBES. Report to British Association, 1843, p. 1892.

Hab. Macri and Crete, Ægean. In deep sea.

The reverse of the preceding in its lateral and perpendicular proportions.

Species 36. (Mus. Brit.)

NUCULA LAYARDI. *Nuc. testâ ovatâ, subcompressâ, utrinque acuminatâ, tenui, epidermide politissimâ subviridi indutâ; latere postico producto, acuminato, lunulâ brevi, circumscriptâ, apice acuminato, margine ventrali æqualiter convexâ; latere antico elongato, acuminato, areâ dorsali convexo, ad angulum depresso.*

LAYARD'S NUCULA. Shell ovate, subcompressed, acuminated at both ends, thin, covered with a very polished greenish epidermis; posterior side produced, acuminated, lunule short, circumscribed; apex acuminated, ventral margin equally convex; anterior side elongated, acuminated, dorsal area convex, depressed at the angle.

A. ADAMS. Proc. Zool. Soc., 1856, p. 51.

Hab. Ceylon.

It is scarcely with *Nucula convexa* that this shell need be compared, as is done by its describer. It is much more closely allied to the larger species named *Nucula Cumingii*.

Species 37. (Fig. *a*, *b*, Mus. Brit.)

NUCULA CORTICATA. *Nuc. testâ breviter subovatâ, tumidâ, crassâ, fulvâ; latere postico brevi, subrotundato, lunula indistinctâ, apice obtuso, margine ventrali convexo; latere antico obliquè inflato, obtusissimè angulato, margine dorsali convexo, ad terminum vix acuminato.*

THE CORTICATED NUCULA. Shell shortly subovate, tumid, thick, fulvous; posterior side short, a little rounded, lunule indistinct, apex obtuse, ventral margin convex; anterior side obliquely inflated, very obtusely angulated, dorsal margin convex, very slightly acuminated at the end.

MÖLLER. Fauna Grœnlandica. Möll., p. 17.

Hab. Greenland.

Species 38. (Mus. ——? figure copied.)

NUCULA PULCHRA. *Nuc. testâ ovatâ, solidâ, valdè inœquilaterali, concentricè liratâ, epidermide fuscâ indutâ; latere postico brevissimo, subperpendiculari, lunulâ parvâ, convexâ, circumscriptâ; apice obtuso; margine ventrali obliquè convexo; latere antico obliquè inflato, producto, margine dorsali convexè declivi; areâ lœvigatâ.*

THE BEAUTIFUL NUCULA. Shell ovate, solid, very inequilateral, concentrically lirated, covered with a brown epidermis; posterior side very short, nearly perpendicular, lunule small, convex, circumscribed; apex obtuse, ventral margin obliquely convex; anterior side obliquely inflated, produced, dorsal margin convexly sloped, area smooth.

HINDS. Proc. Zool. Soc., 1843, p. 97. Voy. *Sulphur*, p. 63, pl. 18, f. 7.

Hab. L'Agulhas Bank. Cape of Good Hope.

This pretty species was taken at a depth of 70 fathoms.

Species 39. (Mus. Hanley.)

NUCULA ANTIPODUM. *Nuc. testâ perobliquâ, elongato-subovatâ, tenui, politissimâ, subcompressâ; latere postico brevissimo, perpendiculariter truncato; latere antico attenuato, infrà ad terminum acuminato, margine dorsali angulato, declivi.*

THE ANTIPODEAN NUCULA. Shell very oblique, elongated, subovate, thin, very shining, subcompressed; posterior side very short, perpendicularly truncated, anterior side attenuated, acuminated at the end below.

HANLEY. Proc. Zool. Soc., 1860.

Hab. Australia.

This species does not seem to differ materially from *Nucula mitralis*, also an Australian shell, excepting that it is more acuminated at the anterior end and more compressed throughout.

NUCULA.

	Plate.	Species.
Ægeensis, *Forbes*	V.	35
antipodum, *Hanl.*	V.	39
argentœa, Costa	I.	2
Belottii, *A. Ad.*	II.	11
castanea, *A. Ad.*	III.	19
castrensis, *Hinds*	IV.	32
convexa, *Sowerby*	I.	1
corticata, *Möller*	V.	37
crenulata, *A. Ad.*	IV.	25
Cumingii, *Hinds*	I.	5
declivis, *Hinds*	IV.	31
decussata, *Sowerby*	I.	3
delphinodonta, *Mighels*	III.	18
divaricata, *Hinds*	IV.	29
exigua, *Sowerby*	IV.	26
gibba, A. Ad.	II.	8
Grayi, *D'Orb.*	II.	13
inflata, *Handck.*	I.	6
Layardi, *A. Ad.*	V.	36
Macandrei, *Hanl.*	IV.	28
Malabarica, *Hanl.*	V.	34
margaritacea, Lamk.	I.	2
margaritacea, Sowerby	II.	12
marmorea, *Hinds*	IV.	30
mirabilis, *Ad. and Reeve*	I.	4
mitralis, *Hinds*	II.	8
nana, *Hinds*	V.	33
nitida, *Sowerby*	II.	16
nitidula, *A. Ad.*	IV.	27
nucleus, *Linn.*	I.	2
obliqua, *Lamk.*	II	14
obliquata, Beck	I.	6
paulula, *A. Ad.*	III.	22
Paytensis, *A. Ad.*	III.	23
pisum, *Sowerby*	IV.	24
proxima, *Say*	III.	17
Puelcha, *D'Orb.*	I.	7
pulchra, *Hinds*	V.	38
radiata, *Hanl.*	II.	12
semiornata, D'Orb.	IV.	24
simplex, *A. Ad.*	III.	21
Strangei, *A. Ad.*	II.	15
striolata, *A. Ad.*	II.	9
sulcata, Phil.	I.	3
sulcata, *A. Ad.*	II.	10
tenuis, *Mont.*	III.	20

MONOGRAPH

OF THE GENUS

UTRICULUS.

"Ever drifting, drifting, drifting
On the shifting
Currents of the restless main."—*Longfellow.*

1.

2. a.

2. b.

3.

5.

4.

6.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

UTRICULUS.

Genus UTRICULUS, *Brown.*

Testa Bullæformis, tenuis, subcylindracea, spirâ conspicuâ, brevissimâ, anfractibus prominentibus, aperturâ elongatâ, labio externo suprà medium producto, columellâ tenui, subtortuâ.

Shell Bulla-shaped, thin, subcylindrical, spire conspicuous, short, whorls prominent, aperture elongated, outer lip produced above the centre, columella subtortuous.

The difference between this genus and *Tornatina* is to be sought, not in the shell but in the animal, or rather in the relation of one to the other. In the former case the animal is enclosed within the shell. Of the six species, three are British, one Mexican, one Bornean, and the last of the United States.

Species 1. (Mus. Brit.)

UTRICULUS PELLUCIDUS. *Utr. testâ obliquè ovato-subglobosâ, minutâ, pellucidâ, ventricosâ, lævi, post columellam subumbilicatâ, lateribus suprà medium rectiusculis, spirâ subquadratâ, brevissimâ, anfractibus, apice mammillato; aperturâ amplâ, posticè coarctatâ, anticè dilatatâ.*

THE PELLUCID UTRICULUS. Shell obliquely ovate-subglobose, minute, pellucid, ventricose, smooth, subumbilicated behind the columella, sides rather straight above the middle; spire subquadrate, very short, with three whorls; apex mammillated, aperture large, narrowed at the back, expanded in front.

BROWN.

Amphispira hyalina, Löven.

Bulla canda, Macgillivray.

Hab. British Islands.

Species 2. (Fig. *a*, *b*, Mus. Jeffreys.)

UTRICULUS GLOBOSUS. *Utr. testâ parvâ, candidâ, lævigatâ, pellucidâ, obliquè ovatâ, ventricosâ, versùs spiram subattenuatâ, post columellam subumbilicatâ; spirâ umbilicatâ, anfractibus convexis; aperturâ pyriformi, labio externo suprà spiram elevato.*

THE GLOBOSE UTRICULUS. Shell small, white, smooth, pellucid, obliquely ovate, ventricose, slightly attenuated towards the spire, subumbilicated behind the columella; spire umbilicated, whorls concealed; aperture pyriform; outer lip raised above the spire.

LÖVEN. Ind. Moll. Scandinaviæ, p. 11.

Hab. North Britain. Scandinavia.

The only species of the genus which does not show the whorls of the spire.

Species 3. (Mus. Cuming in Brit.)

UTRICULUS CECILIÆ. *Utr. testâ cylindricâ, lævi, tenui, epidermide olivaceâ indutâ, longitudinaliter substriatâ, spirâ distinctâ, parùm elevatâ; anfractibus quinque, suturâ corrugatâ; aperturâ angustâ, anticè dilatatâ; columellâ arcuatâ.*

CECILIA'S UTRICULUS. Shell cylindrical, smooth, thin, covered with an olive epidermis, longitudinally slightly striated, spire distinct, a little elevated; whorls five, suture corrugated; aperture narrow, dilated in front, columella arched.

PHILIPPI. Enum. Moll. Siciliæ.

Hab. Mediterranean. Mexico.

The most narrowly cylindrical of all the species.

Species 4. (Mus. Cuming in Brit.)

UTRICULUS PERTENUIS. *Utr. minutâ cylindraceâ, albidâ, tenuissimâ, hyalinâ, spirâ discoideâ, anfractibus quatuor rotundatis, suturâ distinctâ; labro ad terminum spiralem recto, infra rotundato; aperturâ postice angustato; columellâ rectiusculâ.*

THE VERY THIN UTRICULUS. Shell minute, cylindraceous, whitish, very thin, hyaline; spire discoidal with four rounded whorls; suture distinct; outer lip quadrate at the spiral end,

rounded in front; aperture posteriorly narrowed; columella rather straight.

MIGHELS. Boston Journal of Natural History, vol. ii. p. 346.

Hab. Casco Bay, United States.

A very minute glassy shell, of a cylindrical form, truncated at the spire.

Species 5. (Mus. Cuming in Brit.)

UTRICULUS OBTUSA. *Utr. minutâ, cylindraceâ, latiusculâ, posticè subattenuatâ, longitudinaliter rugoso-striatâ, opacâ, albâ, spirâ elevatiusculâ, aperturâ angustâ, medio coarctatâ, anticè dilatatâ; columellâ subincrassatâ, arcuatâ.*

THE OBTUSE UTRICULUS. Shell minute, cylindrical, rather broad, posteriorly subattenuated, longitudinally rugosely striated, opaque white; spire a little elevated, aperture narrow, contracted in the middle, dilated anteriorly; columella a little thickened, arched.

TURTON. Walker's Testaceæ Minutæ, f. 61.

Hab. British Islands.

Species 6. (Mus. Cuming.)

UTRICULUS BORNEENSIS. *Utr. testâ parvâ, rectâ, cylindricâ, albâ, pellucidâ, epidermide ferrugineâ, testâ longitudinaliter striatâ; spirâ distinctâ, complanatâ, anfractibus quatuor, apice mammillato; aperturâ angustissimâ, anticè dilatatâ, columellâ arcuatâ.*

THE BORNEAN UTRICULUS. Shell small, straight, cylindrical, white, pellucid, epidermis ferruginous, shell longitudinally striated; spire distinct, flattened, with four whorls, apex mammillated, aperture very narrow, dilated in front, columella arched.

A. ADAMS. Sowerby's Thesaurus Conchyliorum. Bullidæ, f. 23.

Hab. Borneo.

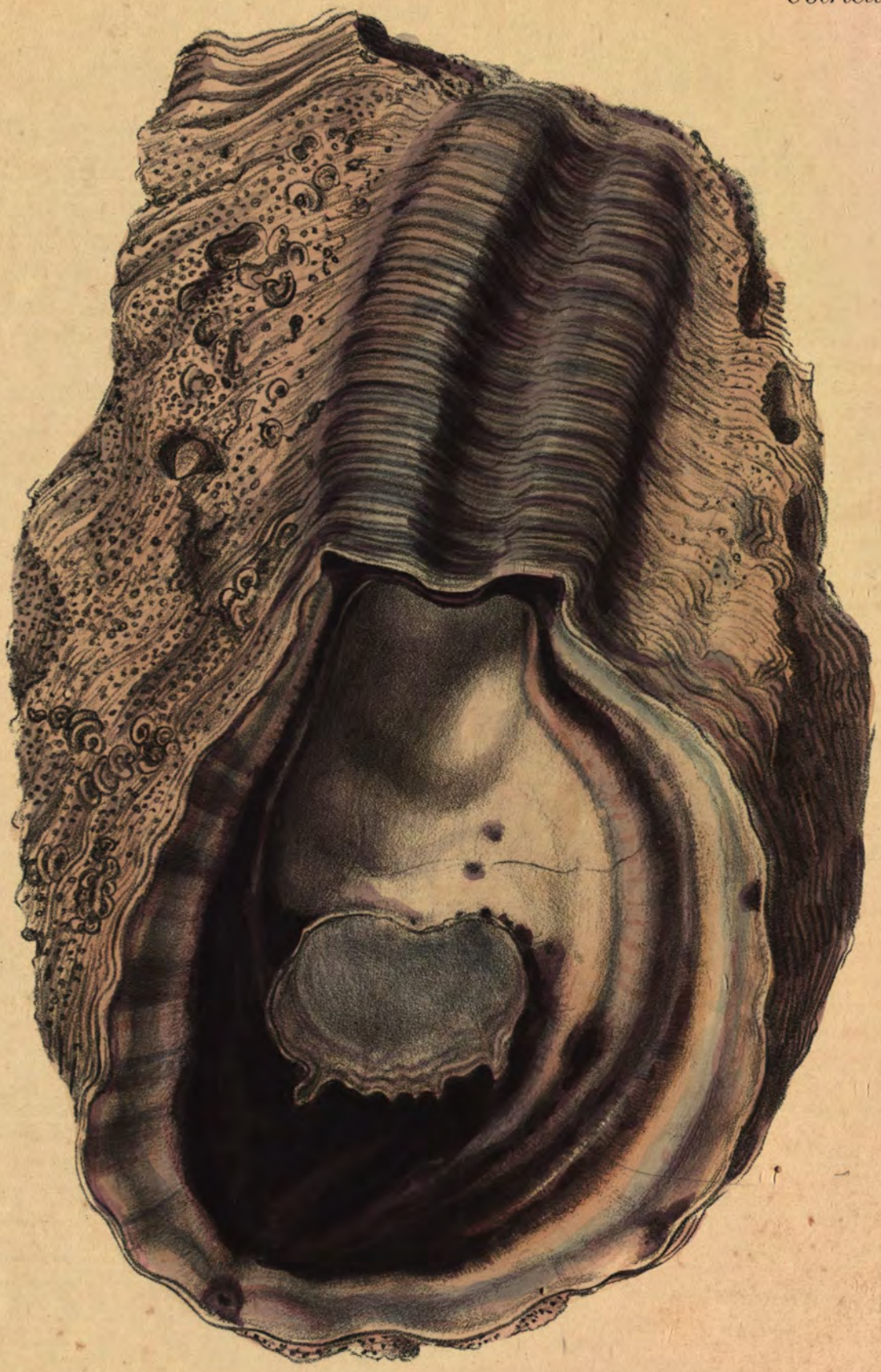
This shell is smaller than *Utriculus Ceciliæ*, truncated at the spire, and the straightest of the group.

MONOGRAPH

OF THE GENUS

OSTRÆA.

"Rich honesty dwells like a miser, sir, in a poor house; as your pearl in your foul oyster."—*Shakspeare.*



1.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

OSTRÆA.

PLATE I.

Genus OSTRÆA, *Linnæus.*

Testa bivalvis, unimusculosa, foliacea, ad saxas, conchas, radicesque per valvam inferiorem adhærens, valdè irregularis; cardine edentulo, margine lineari; ligamento subexterno super aream trigonam utrâque valvâ laminato.

Shell bivalve, unimuscular, foliaceous, adhering to stones, shells, and roots by the lower valve, very irregular; hinge toothless, with linear margin; ligament partly external, laminated upon a trigonal area in each valve.

East, west, in the tropical, temperate, arctic, and antarctic zones, wherever there are sea-coasts, and even in deep seas, oysters are to be found. And while the genus is widely diffused, individual species seem to be spread over very large areas. If some forms existing in Australia, America, Chiloe, &c., variously named, be not really varieties of our native *Ostræa edulis*, certainly many forms, distributed from the Adriatic to the Mediterranean sea, are clearly referable to that very variable species. As must be the case with attached bivalves, the difficulty of distinguishing species is very considerable, owing to the form of each individual depending so largely upon the object and mode of attachment. Our figures of *Ostræa edulis* present a striking example of this, and to the divergent forms given many others might be added, such as the ponderous *O. hippopus*, *O. cristata*, and very probably, *O. lamellosa*, which are forms of the same. Among the most interesting of new species are some described towards the latter part of the monograph, from the collection of Sir David Barclay—shells taken principally in the Mauritius, and the islets Diego Garcia and Barclay—the latter of quite recent formation.

Species 1. (Mus. Sowerby.)

OSTRÆA PRISMATICA. *Ost. testâ longitudinaliter elongato-ovatâ, crassâ, squamiferâ, fuscâ, squamis ætate juniori divaricatim striatis; intùs iridescenti, propè marginem fusco-purpurascenti unifasciato aut nebulato; cicatrice maximo; cardine lato, nigrescenti, longitudinaliter attenuatâ, profundè sulcato, sulcis in valvam inferiorem unâ centrali, in valvam superiorem duabus lateralibus; valvâ inferiori concavâ, foliaceâ.*

THE PRISMATIC OSTRÆA. Shell longitudinally elongato-ovate, thick, squamiferous, brown, scales in the young state divergently striated; iridescent within, near the margin single-banded or clouded with purple-brown; scar very large; hinge blackish, longitudinally attenuated, deeply grooved, grooves in the lower valve one central, and in the upper valve two lateral; lower valve concave, foliaceous.

GRAY. Annals of Philosophy, 1825.

Ostræa iridescens, Gray, Conch. Misc. Ost. f. 6, 7.

Hab. Central America.

A young specimen of this shell, in the collection of Mr. Taylor, is invested with dark-purplish scales which are divergently striated. The older specimens retain no traces of this, their surface being worn away as they attain any thickness.

November, 1871.

4.

2.a.

3.

2.b.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

OSTRÆA.

PLATE II.

Species 2. (Fig. *a*, *b*, Mus. Maillard.)

OSTRÆA CUCULLINA. *Ost. testâ parvâ, irregulari, multiformi, gryphoideâ, tenui, fragili, valde inæquivalvi, pallidè rufâ; valvâ superiori plano-concavâ, tenuissimâ, sublamellosâ, valvâ inferiori profundâ, ad apicem arcuatâ; areâ cardinali angustâ, acutâ.*

THE HOODED OSTRÆA. Shell small, irregular, multiform, gryphoid, thin, fragile, very inequivalve, pale reddish; upper valve plano-concave, very thin, sublamellar, lower valve deep, arched at the apex; cardinal area narrow, acute.

DESHAYES. Conchyliologie de l'Isle de la Réunion, p. 2, 36, pl. xxxii., f. 78.

Hab. Bourbon.

This peculiarly formed little oyster has a prima facie appearance of being young and unformed, and possibly belonging to some larger species. M. Maillard, its discoverer, however, declares that it never attains a larger size.

Species 3. (Mus. Sowerby.)

OSTRÆA MYTILOIDES. *Ost. testâ parasiticâ, solidâ, oblongâ, versùs cardinem attenuatâ, ad latera plicato-crenatâ, profundè violaceâ, obscurè radiatâ, omninò undulatim-squamosâ, margine ventrali subquadrato; valvulâ superiori convexâ; areâ cardinali acuminatâ.*

THE MYTILOID OSTRÆA. Shell parasitic, solid, oblong, attenuated towards the hinge, plicato-crenated at the sides, deep violet, obscurely rayed, wavily squamose; ventral margin subquadrate; upper valve convex; cardinal area acuminated.

LAMARCK. Animaux sans vertébres. Ostræa, No. 21.

Hab. Australia.

Species 4. (Mus. Sowerby.)

OSTRÆA PARASITICA. *Ost. testâ ovato-subrotundatâ, ad radices Rhizophorarum adhærenti, pallidè fulvâ, fusco-purpureo radiatim fasciatâ et variegatâ; valvulâ inferiori profundiorâ, irregulariter squamosâ, obscurè costatâ; valvulâ superiori subcomplanatâ, versùs margines undulato-squamiferâ; marginibus intùs subpurpureis, haud crenulatis.*

THE PARASITIC OYSTER. Shell somewhat rounded ovate, adhering to Mangrove roots, pale fulvous, radiately banded and variegated with brownish purple; lower valve deeper, irregularly squamose, obscurely ribbed; upper valve rather flattened, undulately squamose towards the margins; margins rather purple within, not crenulated.

GMELIN. Linnæus, Systema Naturæ, p. 295.

Hab. River Gambia in Africa.

The figure is taken from a portion of a forked root of Mangrove, both limbs of which are completely covered with specimens of various sizes and shapes. These agree in all particulars with those of a magnificent specimen in the British Museum, marked as from the above locality, and with the figure cited in Chemnitz. The South African *O. Rhizophoræ* of Guilding, if not identical with this species, differs from it in the prevailing form of the shells being more elongated, and of thinner substance.

October, 1870.

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G.B. Sowerby, del et lith

Vincent Brooks Day & Son, Imp

OSTRÆA.

PLATE III.

Species 5. (Mus. Brit.)

OSTRÆA SINENSIS. *Ost. testâ solidâ, suborbiculari, fusco-subpurpureâ, concentricè undulatim lamellatâ, ad regionem umbonalem mediumque convexo-subplanulatâ, ad margines laterales et ventrales angulatim plicatâ; valvâ inferiori ad marginem dorsalem utrinque auritâ, lamelliferâ, albidâ, intùs fusco latimarginato, medio fulvo partim nebulato; impressione musculari vividè castaneâ.*

THE CHINESE OSTRÆA. Shell solid, suborbicular and brownish purple, concentrically wavily lamellated, a little convexly flattened at the middle and umbonal regions, angularly plicated at the lateral and ventral margins; lower valve aurited and laminated on both sides of the dorsal margin, within broadly bordered with brown, and partly clouded with light brown in the middle; muscular impression bright chestnut.

GMELIN. Systema Naturæ Linnæi. No. 3335. Chem. Conch. f. 668.

Ostræa præadamitica, Bolten.

Hab. Chinese Seas.

The magnificent specimen from which our illustration is taken is more widely flattened than is generally the case.

October, 1870.

6

G.B.Sowerby, del. et lith

7

Vincent Brooks Day & Son Imp.

OSTRÆA.

PLATE IV.

Species 6. (Mus. Cuming in Brit.)

OSTRÆA CALLOCHROA. *Ost. testâ suborbiculari, compressâ, solidâ, valvis subæqualibus; valvâ superiori vix convexâ, purpureo alboque-luteo radiatâ, concentrice depresso-lamellatâ; valvâ inferiori moderatè convexâ, plus minusve purpureo tinctâ, costis obtusis radiantibus armatâ, intùs albâ, margine squamifero subpurpureo; marginibus lateralibus prope umbones distinctè denticulatis.*

THE FINE-COLOURED OSTRÆA. Shell suborbicular compressed, solid, valves nearly equal, upper valve very little convex; rayed with purple and yellowish white, concentrically flatly laminated; lower valve moderately convex, more or less tinted with purple, armed with obtuse radiating ribs; white within, margin scaly purplish; lateral margins distinctly denticulated near the umboes.

HANLEY. Pro. Zool. Soc. 1845.

Hab. Chili.

Species 7. (Mus. Brit.)

OSTRÆA HYOTIS. *Ost. testâ irregulariter subquadratâ, solidâ, spinis tubiformibus, super angulos plicarum magnarum septem circa extantibus armatâ, fusco-viridi; auriculis subcompressis, foliaceis pliciferis; intùs latè fusco marginatâ.*

THE HYOIDOID OSTRÆA. Shell irregularly subquadrate, solid, armed with tube-shaped spines standing out upon the angles of about seven large folds; greenish brown; auricles rather compressed, foliaceous plicated; widely bordered with brown inside.

LINNÆUS. Systema Naturæ.

Hab. Indian Ocean.

The colouring of this shell is rather peculiar, being of a uniform greenish brown, and the deep angular plaits are surmounted generally with tubular spines.

October, 1870.

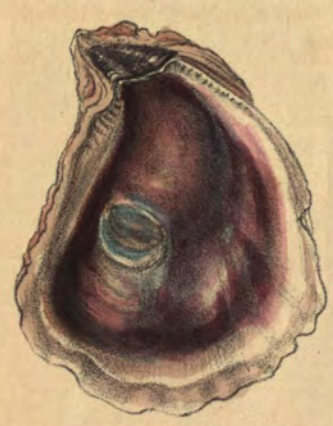
87966

8. a.

8. c.

8. b.

8. d.



8. e.

8. f.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

OSTRÆA.

PLATE V.

Species 8. (Fig. *a, b, c, d, e, f,* Mus. Jeffreys.)

OSTRÆA EDULIS. *Ost. testâ ovato-subtrigonâ, solidâ, intùs plerumque nivеâ, ad latera propè cardinem plus minusvè denticulatâ, margine ventrali subrotundo et expanso; margine dorsali subauriculato; valvâ inferiori plerumque concavâ, obtusè radiatim costata, lamellis undulatim plicatis, laxè imbricatâ, purpureo irregulariter strigatâ; valvâ superiori minori, plerumque valdè complanatâ fusco-viridescenti, purpureo obscurè radiatâ, squamis compressis, laxis, subquadratis, multilobatis, radiatim dispositis laminatâ.*

THE EDIBLE OSTRÆA. Shell ovately subtrigonal, solid, generally snow-white within, near the hinge at the sides more or less denticulated, ventral margin rather rounded and expanded; dorsal margin subauriculated; lower valve generally concave, obtusely radiately ribbed, loosely imbricated with wavily plicated lamellæ, irregularly striped with purple; upper valve smaller, mostly very flat, greenish brown, obscurely rayed with purple, laminated with flattened, loose, many-lobed, radiately-disposed scales.

LINNÆUS. Systema Naturæ, No. 1148.

Ostræa parasitica, Turton.

Ostræa hippopus, Lamarck.

Hab. Europe.

The common eatable European oyster may be considered as presenting a fair specimen of one characteristic of its tribe, namely, extreme variability of form. The principal varieties are arranged as follows by Mr. Jeffreys, premising that the type is of a dull greenish-brown and a little inclined to a trigonal form.

Var. 1. *parasitica* (fig. *f*), which adhering by a large part of its undersurface to various shells and other substances, modifies its form by them. In the beautifully leafy and variegated specimen here figured may be seen the traces of the ribs of *Pecten opercularis* to which it is attached, showing through both valves.

Var. 2. *Ostræa hippopus*, Lamarck, is not gregarious, like the ordinary forms, but solitary, and living in deep water; is very rough and ponderous, not at all flaky or scaly; very deep in the lower valve and thick in the upper.

Var. 3. *deformis*, Lam. (a term which might apply to irregularly growing shells of any of the species). Two examples are given (*f, c, d,*) one elongated perpendicularly, and the other laterally, the latter being formed upon the operculum of a living whelk and confined in its growth to the shape of the aperture.

Var. 4. *rutupina*, Jeffr. A small, regularly formed, not very flaky variety, to which our "Natives" belong.

Var. 5. *tincta*, Jeffr. Like var. *rutupina*, rather regularly formed and flat, but having the inside coloured with purplish brown. (Fig. *e.*)

9.a.

9.c.

9.b.

Sowerby, del.et. lith.

Vincent Brooks, Day & Son, Imp.

OSTRÆA.

PLATE VI.

Species 9. (Fig. *a*, *b*, *c*, Mus. Brit.)

OSTRÆA ROSTRATA. *Ost. testâ elongato-subtrigonâ, valdè foliaceâ, plerumque arcuatâ, albidâ; valvulâ superiori breviùsculâ, compressâ, inferiori crassâ, excavatâ; cardine elongato, in valvulâ inferiori medio profundè excavato, superiori medio tumido; impressione musculari utrâque valvulâ plerumque attenuatâ, castaneâ.*

THE ROSTRATED OSTRÆA. Shell elongate-subtrigonal, very foliaceous, generally arched, whitish; upper valve rather short compressed, lower thick, excavated, hinge elongated, in the lower valve deeply excavated in the middle, in the upper tumid in the middle; muscular impression in each valve generally attenuated, chestnut.

CHEMNITZ. Conch. 8. t. 73. f. 677. "O. rostrata, parva et maxima."

Ostræa Virginiana, Gmelin.
Ostræa Virginica, Lamarck.
Ostræa Canadensis, Lamarck.
Ostræa borealis, Lamarck.
Hab. New York. Virginia. Canada.

The shell of early growth represented at fig. *c*, being attached by a small part of its surface to a smooth substance has a form very similar to our edible oyster. The elongated laterally compressed boat form, fig. *a*, *b*, represents *O. Virginica*, Lamarck. We have not thought it necessary to give a figure of the form *Canadensis*, Lamarck, which is shorter, more curved, and thicker, very foliaceous in the lower valve. In the *Virginica* form, the attenuated beak with central ridge, and groove and side ridges, presents a curious feature. The largest specimen in the British Museum is more than a foot long.

January, 1871.

10. a.

10. b.

11.

Sowerby, del et lith.

Vincent Brooks, Day & Son, Imp.

OSTRÆA.

PLATE VII.

Species 10. (Fig. *a*, *b*, Mus. Brit.)

OSTRÆA COLUMBIENSIS. *Ost. testâ compressâ, lævigatâ, irregulariter subovatâ, albidâ, nonnunquam radiis purpureis duplicatis ornatâ, tenui; valvulâ inferiori foliaceâ; cardine parvo, apice acuto; intùs albâ, marginibus lateralibus haud denticulatis.*

THE COLUMBIAN OSTRÆA. Shell compressed, smooth, irregularly subovate, whitish, sometimes ornamented with duplicate purple rays, thin; lower valve foliaceous, hinge small, apex acute; white within, with the lateral margins not denticulated.

HANLEY. Pro. Zool. Soc. 1845.

Hab. St. Helena, *Cuming.* Mazatlan. Lower California.

It is difficult to distinguish shells of this variable species from young specimens of *Ostræa rostrata.* They are, however, believed to be different by those who have studied every series of both species in various stages, and when tolerably free in their growth their tendency seems to be rather towards an oval than a triangular form.

Species 11. (Mus. Hanley.)

OSTRÆA BELCHERI. *Ost. testâ maximâ, compressâ, spathulatâ, elongato-subtrigonâ, crassiusculâ, foliaceâ, squamis maximis, quadratis, purpureo-subviridis armatâ; valvulâ inferiori planulatâ, superiori convexâ; cardine lato; margine ventrali expanso.*

BELCHER'S OSTRÆA. Shell very large, compressed, spathulate, elongate-subtrigonal, rather thick, foliaceous, armed with very large, square, rather purplish green scales; lower valve flattened, upper convex; hinge broad; ventral margin expanded.

SOWERBY.

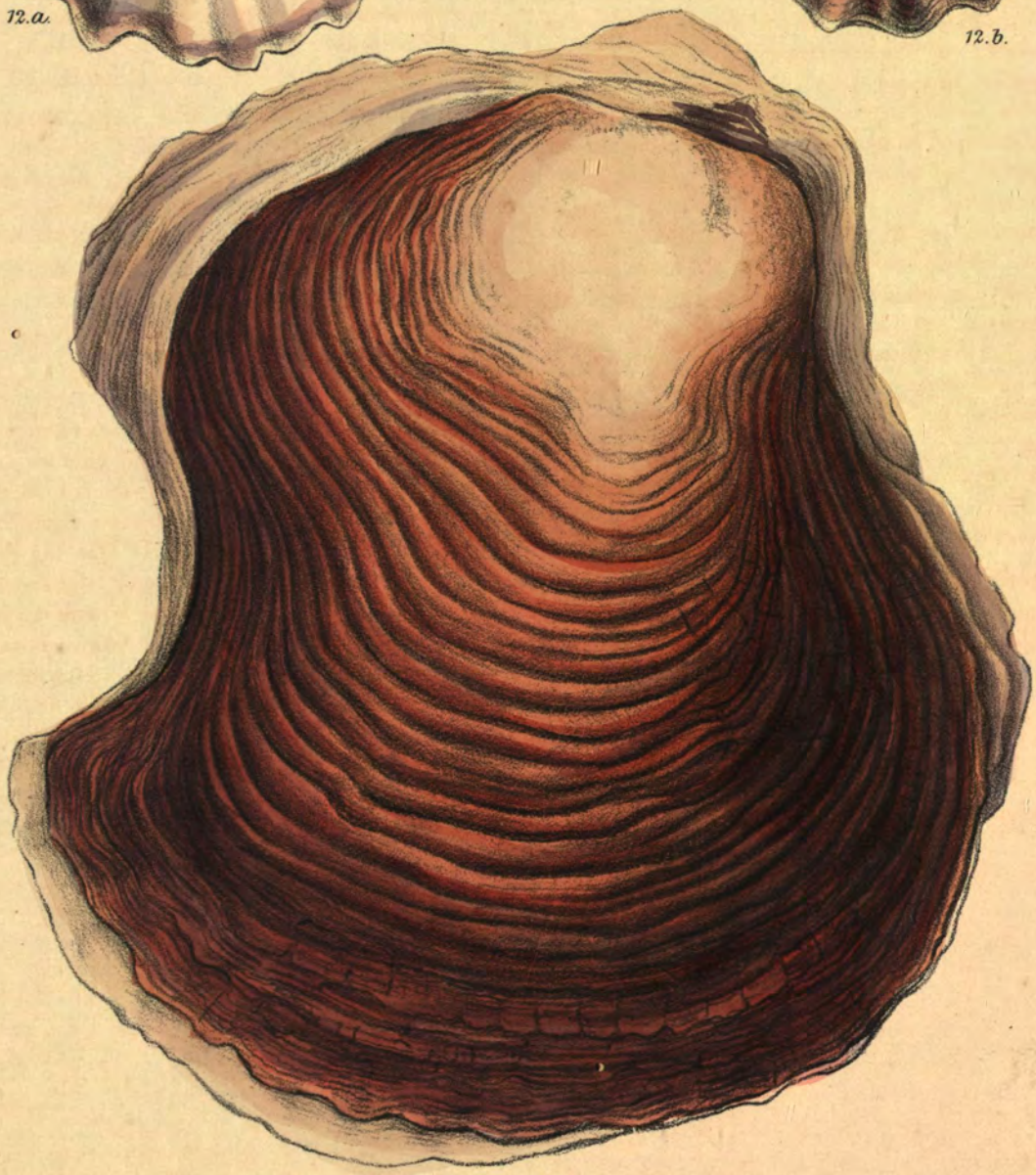
Hab. Eastern Seas?—Captain Belcher.

It is to be regretted that this magnificent shell, now in the collection of Mr. Hanley, has had no specific locality assigned to it by Captain Belcher, who brought it home among the fruits of his expedition. It is remarkable for its large flat scales. The specimen is attached to a broad flattened stem of mangrove.

January, 1871.

12.a.

12.b.



13.

Sowerby, del.et lith.

Vincent Brooks, Day & Son, Imp.

OSTRÆA.

PLATE VIII.

Species 12. (Fig. *a*, *b*, Mus. Brit.)

OSTRÆA' ANGULATA. *Ost. testâ trigonâ, brevi, tenuiusculâ, albidâ, strigis purpureis paucis irregularibus radiatâ; apicibus incurvis, subspiralibus; valvulâ superiori depressâ, parvâ, ad marginem ventralem leviter plicatâ; inferiori profundâ ad apicem arcuatim productâ, ad marginem ventralem leviter plicatâ, expansâ, valvam inferiorem longè superante; cardine tenui.*

THE ANGULAR OSTRÆA. Shell trigonal, short, rather thin, whitish, rayed with few, irregular, purple streaks; apices incurved, subspinal; upper valve depressed, small, slightly plicated at the ventral margin; lower valve deep, produced in an arch at the apex, slightly plicated at the ventral margin, expanded, far exceeding the lower valve; hinge thin.

LAMARCK (*Gryphæa angulata*). Anim. s. vert. Gryphæa, sp. 1.

Hab. ——?

The great peculiarity of this shell is the depth of the lower valve under the hinge, above which the apex curves upwards and spirally.

Species 13. (Mus. Brit.)

OSTRÆA SPATHULATA. *Ost. testâ magnâ, compressâ, subquadratâ, solidâ, valvulâ inferiori planulatâ, marginibus albis perfoliaceis; margine dorsali lato; valvulâ superiori aureo-fulvescenti, concentricè lineis rubescentibus pictâ, propè margines laxè squamatâ, latè, expansâ; cardine lato subplanulato; intùs partim subviolaceâ, marginibus denticulatis.*

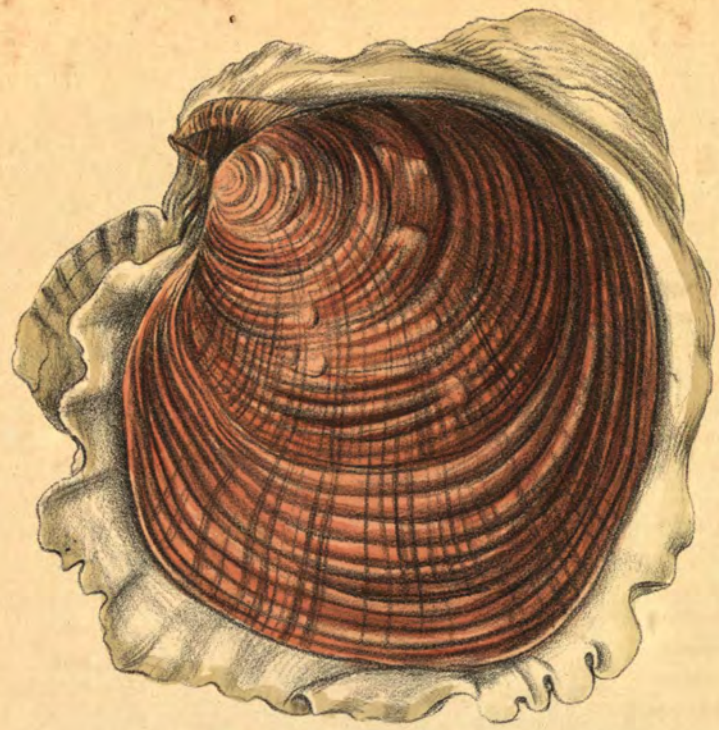
THE SPATHULATE OSTRÆA. Shell large, compressed, subquadrate, solid, lower valve flattened, with white very foliaceous borders; dorsal margin wide; upper valve golden-brown, painted concentrically with reddish lines, loosely scaly towards the margins; a little violet in parts within, with denticulate borders.

LAMARCK. Anim. s. vert. Ost., No. 16.

Hab. Guacomayo, Co. of America.

It is not possible to speak with certainty respecting this species, which may quite possibly be a very aberrant variety of *O. prismatica*. I am led to assign Lamarck's name and description, however vague, to the shell, because that author remarks that his species approaches the preceding one, the *O. denticulata* of *Born*, which our shell unquestionably does, differing, however, in the flat and spathulate form. It might, perhaps, be feasible to link together *O. denticulata*, *O. spathulata*, and *O. iridescens*, under the first of the three names; but the worn state of the ponderous and richly coloured specimens of the third which we have hitherto met with, prevents a decisive conclusion on the subject.

January, 1871.

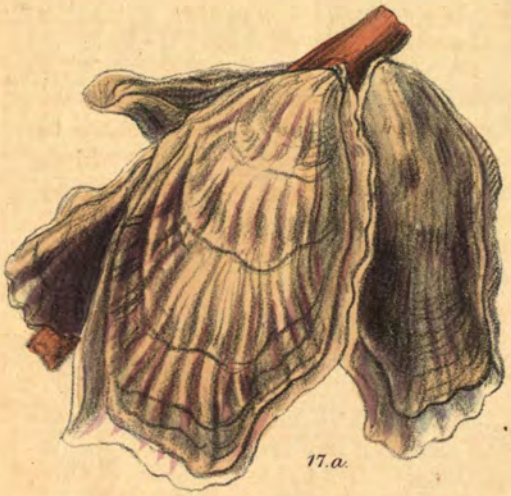


14.

15.

16. a.

16. b.



17. a.

17. b.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

OSTRÆA.

PLATE IX.

Species 14. (Mus. Brit.)

OSTRÆA DENTICULATA. *Ost. testâ subrotundâ, crassâ, glabrâ, submargaritaceâ; intùs partim fusco-purpureo subiridescenti; valvulâ inferiori magnâ, planatâ, marginibus albidis viridescentibus, late foliaceis; valvulâ superiori convexâ, obscurè tuberculatâ, aureo-fulvâ fusco rubescente concentricè strigatâ; cardine planulato; margine interno validè denticulato.*

THE DENTICULATED OSTRÆA. Shell subrotund, thick, glabrous, a little margaritaceous; within, in parts brownish purple, rather iridescent; lower valve large, flattened, with greenish-white borders, widely foliaceous; upper valve convex, obscurely tuberculated, golden-brown, concentrically striped with reddish-brown; hinge flattened, internal margin strongly denticulated.

BORN. Mus. tab. 6, f. 910.

Hab. America ?

The figure of Chemnitz fairly enough represents the species in a very worn state; while that copied in the Encyclopædia might almost have been drawn from our shell.

Species 15. (Mus. Brit.)

OSTRÆA LURIDA. *Ost. testâ tenuiusculâ, luridè, glaucâ, sublœvigâtâ, propè marginem ventralem leviter plicâtâ; posticè plerumque productâ, valvulâ inferiori profundâ, margine dorsali angusto; valvulâ superiori subœquali, leviter convexâ.*

THE LURID OSTRÆA. Shell rather thin, darkly glaucous, rather smooth, lightly plicated near the ventral margin; mostly produced posteriorly; lower valve deep, dorsal margin narrow; upper valve nearly equal in extent to the under, slightly convex.

CARPENTER.——? MS. Mus. Brit.

Hab. Mazatlan.

The chief characteristic of this species is the peculiarly lurid glaucous tint pervading the inner and outer surface of both valves.

Species 16. (Mus. Brit.)

OSTRÆA PYXIDATA. *Ost. testâ orbiculari, inæquivalvi, pallidè fulvâ; valvulâ inferiori convexissimâ radiatim costatâ, costis nodulosis, sæpe duplicatis; valvulâ superiori planâ, divaricatim costatâ, costis nodulosis; marginibus ventralibus crenulatis.*

THE BOX-SHAPED OSTRÆA. Shell orbicular, inæquivalve, pale fulvous; lower valve very convex, radiately ribbed, ribs nodulose frequently duplicate; upper valve flat, divergently ribbed, ribs nodulose; ventral margins crenulated.

ADAMS AND REEVE. Zool. Voy. Samarang. p. 72, Pl. xxi. f. 19.

Hab. Philippine Islands.

A very characteristic little species, sculptured with finely beaded diverging ribs, with very deep under, and flat opercular upper valve.

Species 17. (Fig. *a*, Mus. Brit. *b*, Sowerby.)

OSTRÆA RHIZOPHORÆ. *Ost. testâ elongato-subtrigonâ, tenuiusculâ, laxissimè foliaceâ; sordidè fulvâ, propè marginem ventralem squamatâ, subplicatâ, compressâ, expansâ, strigis purpureis interruptis versùs apicem medio divisis pictâ; intùs albidâ; valvulâ inferiori profundâ cardine producto; valvulâ superiori planulatâ.*

THE MANGROVE OSTRÆA. Shell elongated-subtrigonal, rather thin, very loosely foliaceous; dull fulvous, squamose, slightly plicated, compressed, expanded near the ventral margin, painted with purple interrupted stripes divided in the middle towards the apices; whitish within; lower valve deep, hinge produced; upper valve flattened.

GUILDING. Zool. Journal, vol. 3. p. 542.

Hab. Caribbean Islands. West Indies.

The species is not found exclusively attached to the roots of mangrove, although that may possibly be regarded as its normal habit. From the South African species of the same general habit, *O. parasitica*, it may be distinguished by its less solid and less elongated form. The large specimen, fig. *b*, represents the appearance of the shell when attached by a small portion of its surface to rocks.

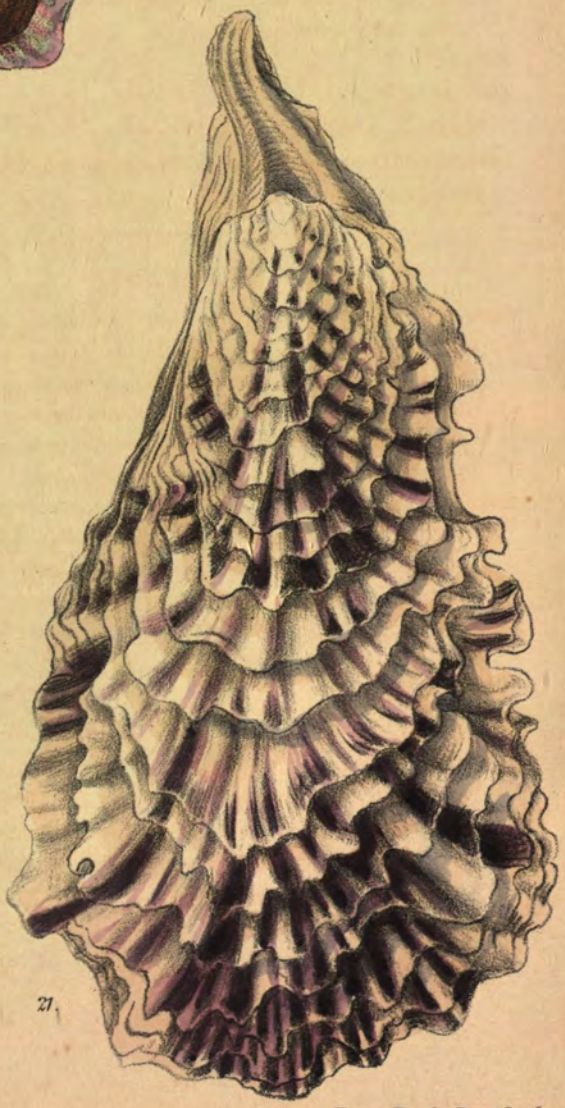
18.a.

19.a.

18.b.

19.b.

20.



21.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

OSTRÆA.

PLATE X.

Species 18. (Mus. Sowerby.)

OSTRÆA PERMOLLIS. *Ost. testâ quadrato-subtrigonâ, compressâ, subæquivalvi, intùs subaureâ vel albâ-cærulescente, ad latera lævigatâ, margine subviridi, cardine producto, angusto, acuminato; valvulâ inferiori purpureo suffusâ, lævigatâ; valvulâ superiori paulo convexâ epidermide permolli subaureo-fusco indutâ, prope marginem ventralem lævitèr squamosâ.*

THE SOFT OSTRÆA. Shell quadrate-subtrigonal, compressed, subæquivalve, slightly golden-tinted or bluish-white within, smooth at the sides, greenish at the borders, hinge produced, narrow, acuminate; lower valve suffused purple, smooth; upper valve a little convex, covered with a very soft slightly golden-tinted brown, a little squamose near the ventral margin.

SOWERBY.

Hab. ——?

There is a kind of velvety softness in the outer covering of the upper valve in this shell which seems to distinguish it.

Species 19. (Mus. Brit.)

OSTRÆA OCHRACEA. *Ost. irregulariter elongato-subtrigonâ, inæquivalvi, solidiusculâ lævigatâ, ochraceâ, albo, purpureo, et fusco strigatâ aut variegatâ, intùs ad marginem purpureo; valvulâ inferiori profundâ, superiorem superanti, cardine acuminatim producto; valvulâ superiori sub-planulatâ.*

THE OCHRACEOUS OSTRÆA. Shell irregularly elongate-subtrigonal, inæquivalve, rather solid, smooth, ochraceous, striped and variegated with white, purple, and brown; lower valve deep, overlapping the upper, hinge produced in a point; upper valve rather flattened.

SOWERBY.

Hab. Mazatlan.

Some specimens of this are in the Mazatlan collection of the British Museum, assigned by M. Carpenter to the American species *O. virginiana*, included in this monograph among the varieties of *O. rostrata*, Chemn., with which, however, it is not easy to connect the present species.

Species 20. (Mus. Brit.)

OSTRÆA ROSTRALIS. *Ost. testâ elongatâ, irregulariter undatâ, laxè foliaceâ, albidâ, purpureo fuscoque strigatâ et variegatâ, inæquivalvi; cardine acuminato, angusto, producto; valvulâ inferiori intùs albâ, ad margines superiores superanti.*

THE BEAKED OSTRÆA. Shell elongated, irregularly undated, loosely foliated, whitish, striped and variegated with brown and purple, inæquivalve; hinge acuminated; narrow, produced; lower valve white within, overlapping the upper at the margins.

LAMARCK. Anim. s. vert. Ostræa, No. 13.

Hab. River Tagus near Lisbon. Sir C. Trevelyan.

In the label with this specimen at the British Museum, *O. longirostris*, Lam. (No. 17 in the *Espèces fossiles*), is referred to by Sir C. Trevelyan; but as that species is described as having in the lower valve a beak larger than all the rest of the valve, the identification is contradicted.

Species 21. (Mus. Cum. in Brit.)

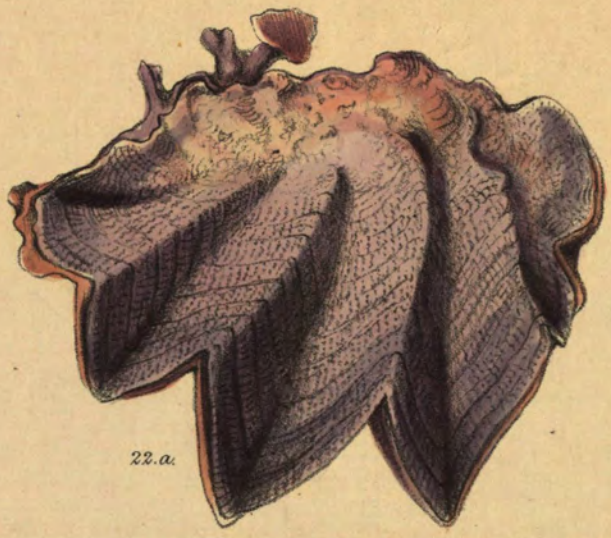
OSTRÆA TALIENWAHNENSIS. *Ost. testâ elongatâ, trigonâ, albâ, purpureo fuscoque strigatâ et maculatâ; perfoliaceâ; valvulâ inferiori convexiusculâ; foliaceâ, lævitèr plicatâ, cardine producto attenuato, acuminato; valvulâ superiori concentricè laminatâ, laminis laqueatis, versùs marginem ventralem validè plicatâ, expansâ.*

THE TALIENWAH OSTRÆA. Shell elongated, trigonal, white, spotted and striped with purple and white, very foliaceous; lower valve rather convex, foliaceous, slightly plicated, hinge produced, attenuated, acuminated; upper valve concentrically laminated, the laminæ fluted, towards the ventral margin strongly plicated, expanded.

CROSSE. *Journal de Conchyliologie.*

Hab. Talienwah.

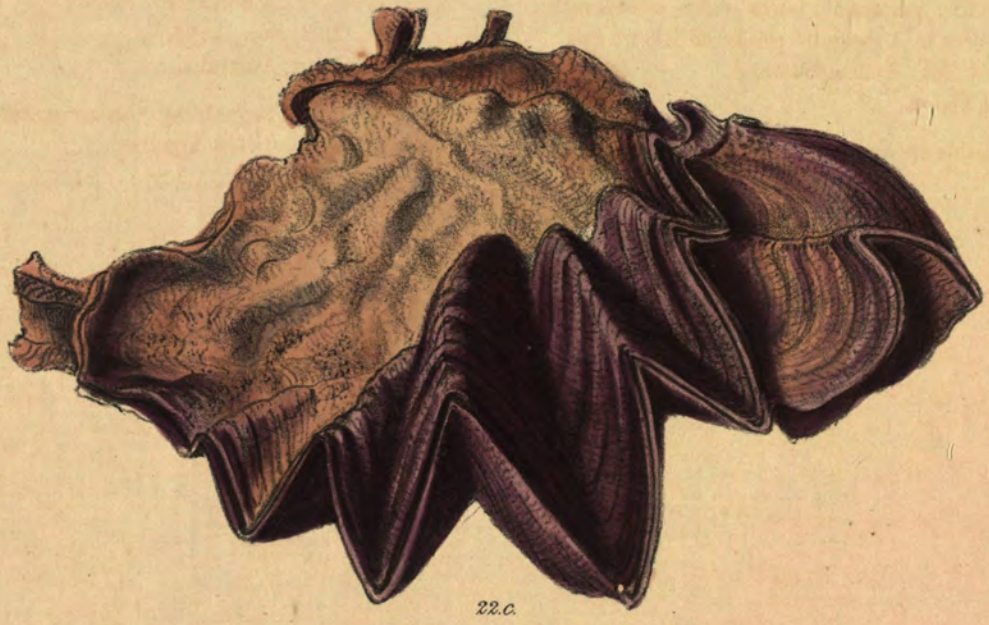
This beautiful oyster is remarkable for its concentric fluted frills, and for the richness of the purple stripes and spots set off by their white surface.



22.a.

22.b.

23.



22.c.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

OSTRÆA.

PLATE XI.

Species 22. (Fig. *a*, Mus. Brit. Fig. *b*, *c*, Sowerby.)

OSTRÆA CRISTA-GALLI. *Ost. testâ plerumque subquadratâ, validissimè plicatâ, plicis angulatis profundis, divaricatim granoso-striatâ purpureo-fuscâ vel fulvâ vel albidâ, versùs marginem pallidè violaceâ; intùs pallidiori, ad marginem granulatâ; cardine lato, complanato; valvulâ inferiori per lobis foliaceis productis ad madreporas rupesque adhærenti.*

THE COCK'S-COMB OSTRÆA. Shell generally subquadrate, strongly plicated, folds angular and deep, divergently granularly striated, purple brown, or fulvous, or whitish, pale violet towards the margin; paler within, granulated at the margin; hinge wide, flattened; lower valve adhering to madrepores and rocks by produced leafy lobes.

LINNÆUS (Mytilus) Systema Naturæ.

Hab. Indian Ocean.

Oysters of this species occur in fine groups, attached to each other by a portion of their surface, and to madrepores by lobelike projections.

Species 23. (Mus. Cuming in Brit.)

OSTRÆA VIRESCENS. *Ost. testâ suborbiculari, solidâ, intùs viridi; valvulâ inferiori profundâ, margine laqueato; valvulâ superiori planulatâ, divaricatim costatâ, costis crebris, rotundis, crassis lineis rubescentibus notatis; cardine lato, medio excavato.*

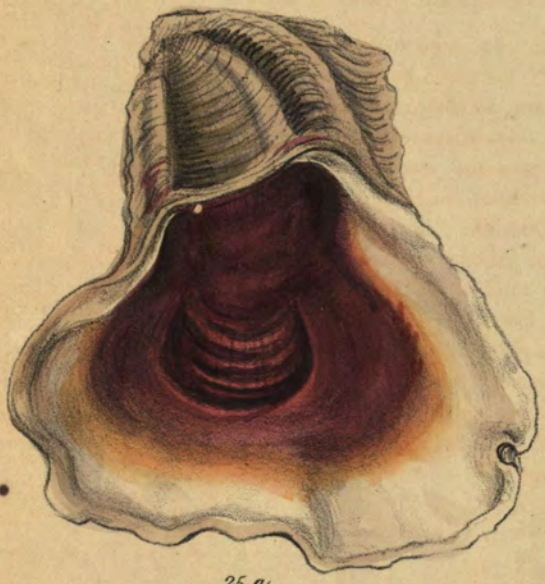
THE VIRESCENT OSTRÆA. Shell suborbicular, solid, green, within; lower valve deep with fluted margin; upper valve flattened, divergently ribbed, ribs close, rounded, thick, marked with reddish lines; hinge wide, excavated in the middle.

ANGAS. Proc. Zool. Soc., 1868.

Hab. Port Jackson, Australia.

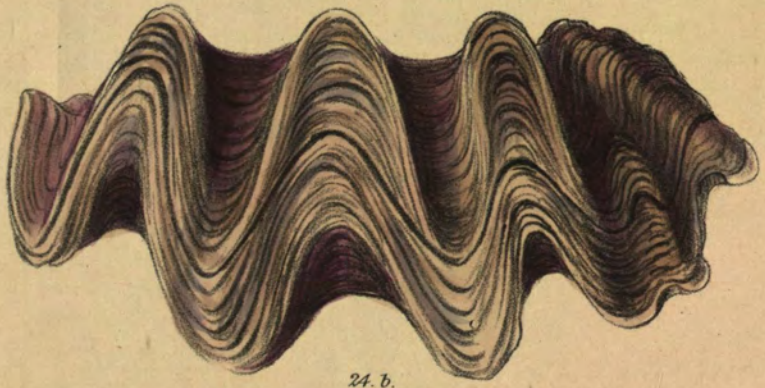
In some respects resembling *Ostræa pyxidata*, but the ribs are thick and close together.

24. a.



25. a.

25. b.



24. b.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

OSTRÆA.

PLATE XII.

Species 24. (Mus. Brit.)

OSTRÆA MEGODON. *Ost. testâ solidâ subæquivalvi, obscurè purpureâ vel viridi fulvescenti, transversè elongatâ, arcuatâ, reniformi, margine ventrali quinque ad sexplicatâ, plicis maximis, rotundis, ad marginem externum perfoliaceis; intùs albâ, partim subviridi; impressione musculari magnâ, reniformi.*

THE LARGE-TOOTHED OSTRÆA. Shell solid, nearly equivalve, dull purple or greenish fulvous, transversely elongated, arched, reniform, ventral margin with five or six plaits, very large, rounded, foliated at the outer margin; white within, partly greenish; muscular impression large, reniform.

HANLEY. Proc. Zool. Soc., 1845.

Ostræa gallus, Valenciennes.

Hab. Peru.

Species 25. (Mus. Brit.)

OSTRÆA RUFA. *Ost. testâ trigonâ, solidâ, rugoso-squamosâ, rufâ, aut fusco-purpureâ; intùs medio fusco-subpurpureâ, ad marginem albidâ; valvulâ inferiori profundâ, ad marginem valvam superiorem superanti; valvulâ superiori subplanulatâ, versùs marginem squamis brevibus crassis armatâ.*

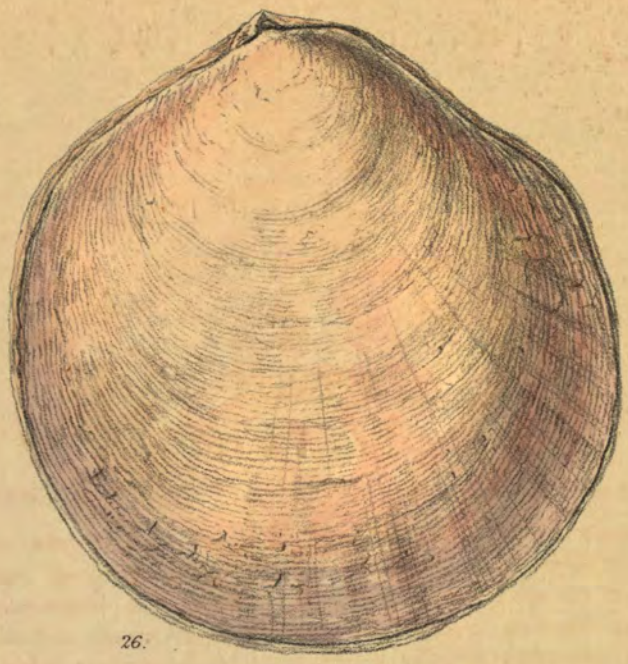
THE RUFOUS OSTRÆA. Shell trigonal, solid, roughly-squamose, rufous or brownish purple; within, brownish purple in the middle, whitish at the margin; lower valve deep, overlapping the upper at the margin; upper valve rather flattened, armed with short thick scales near the margin.

LAMARCK. Anim. sans vert. Ostræa, No. 25.

Ostræa tuberculata, Lamarck; *Ostræa Australis*, Lamarck.

Hab. America.

January, 1871.



26.

4.b.

4.c.

28.

Sowerby, del.et lith.

Vincent Brooks Day & Son, Imp.

OSTRÆA.

PLATE XIII.

(Fig. 4. *a*, *b*, Mus. D'Orb. in Brit.)

In figuring these two shells it was intended to represent as a distinct species the *Ostræa Puelchana* of D'Orbigny, who has so named the specimens. I cannot, however, on further consideration, regard them in any other light than as interesting varieties of the South American *Ostræa parasitica*.

Species 26. (Mus. Brit.)

OSTRÆA DISCOIDEA. *Ost. testâ rotundâ, complanatâ, tenuiter striatâ, albo-fulvescenti, pallidè purpureo radiatâ, subæquivalvi; cardine parvo; valvulâ inferiori convexâ, impressione musculari maximâ; valvulâ superiori valdè compressâ.*

THE DISCOID OYSTER. Shell rounded, flattened, finely striated, whitish brown, rayed with pale purple, subæquivalve; hinge small; lower valve convex, muscular impression very large; upper valve much compressed.

GOULD.

Hab. Fijee Islands and New Zealand.

A rounded species with a flat upper valve and very contracted hinge.

Species 27.

OSTRÆA ANGASSI. *Ost. testâ magnâ, compressâ rotundo-subtrigonâ, cinereâ, versùs margines vix purpureâ, inæquivalvi; intùs albâ; valvulâ inferiori crassâ, costatâ, margine expanso, laqueato limbo cæruleo; valvulâ superiori depressâ, squamis latis, tenuibus, lævigatis, versùs margines laquealis armatâ; cardine lato, complanato; impressione musculari utrâque valvâ magnâ.*

ANGAS'S OSTRÆA. Shell large, compressed roundly subtrigonal, cinereous, a little purple towards the margins, inæquivalve, white within; lower valve thick, ribbed, its margin expanded, fluted, with bluish border; upper valve depressed, armed with broad, thin, smooth scales fluted towards the margin; muscular impression large in both valves.

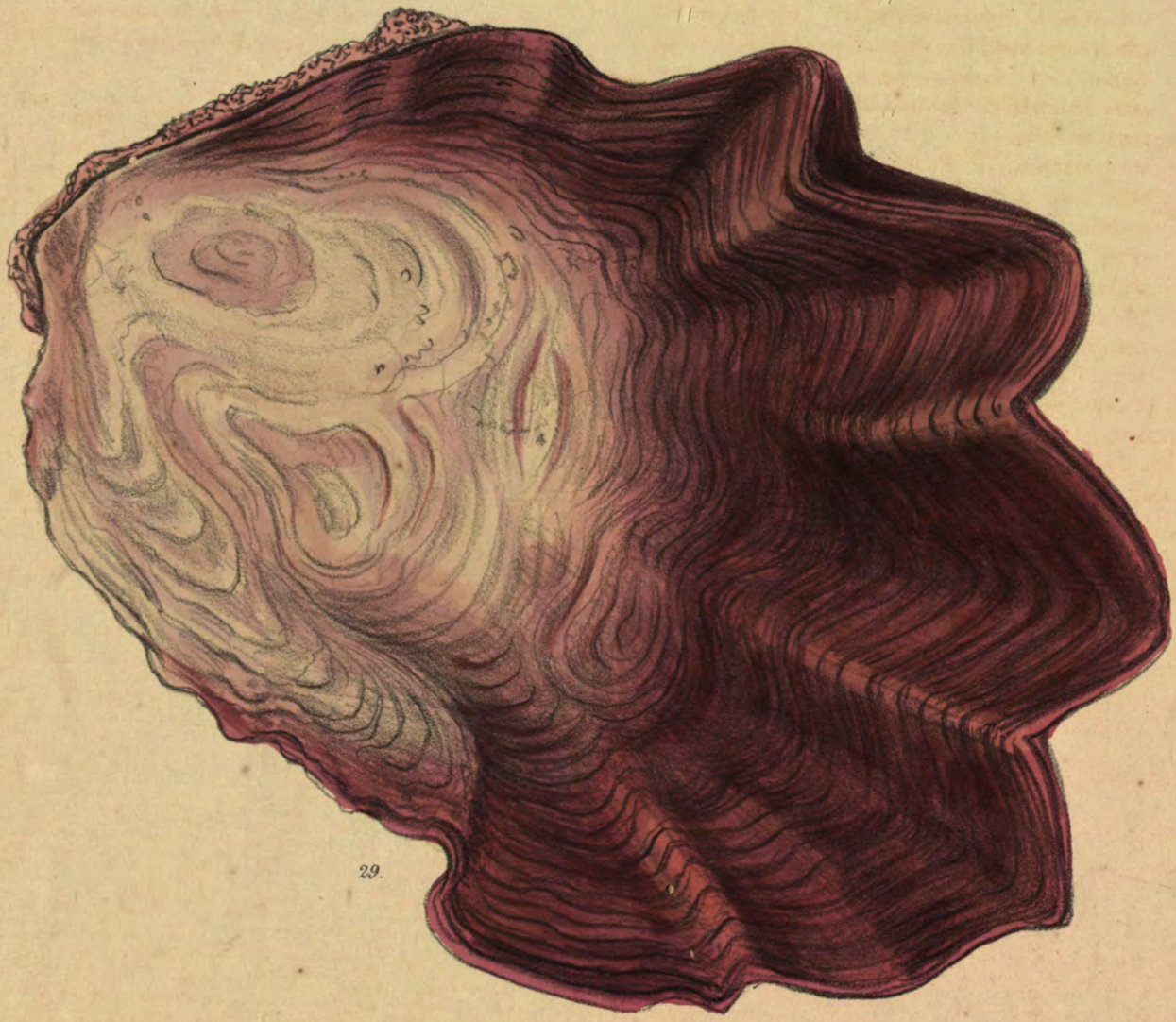
SOWERBY.

Hab. Port Jackson. *Mr. G. F. Angas.*

The sculpture of this large species is much less coarse than in equally large specimens of *O. edulis*, and the upper valve is more convex than in that species.

January, 1871.

28.



29.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

OSTRÆA.

PLATE XIV.

Species 28. (Mus. Brit.)

OSTRÆA SOLIDA. *Ost. testâ crassâ, oblongo-subovatâ, suprà subattenuatâ, versùs marginem ventralem expansâ, plicis numerosis, subrotundis, radiantibus laqueatâ; valvulâ inferiori haud profundâ, crassissimâ, intùs medio fusco nigricanti subulatâ tùm subaureo-fuscâ, margine ventrali fusco-purpureâ; marginibus lateralibus crenulatis; margine cardinali angusto, subelongato, complanato; valvulâ superiori irregulariter tuberculatâ, albidâ, pallidissimè purpureo subulatâ.*

THE SOLID OSTRÆA. Shell thick, oblong-subovate, rather attenuated above, expanded towards the ventral margin, fluted with numerous rounded radiating ribs; lower valve not deep, very thick, clouded within by blackish brown in the centre, then golden brown, ventral margin purplish brown, lateral margins crenulated; hinge margin narrow, rather long, flattened; upper valve irregularly tuberculated, whitish, very lightly clouded with purple. SOWERBY.

Hab. Gulf of Panama.

There is a second specimen in the British Museum collection, which is straighter, and less distinctly wrinkled than the one figured, with considerably less colour within.

Species 29. (Mus. Brit.)

OSTRÆA TURBINATA. *Ost. testâ fuscâ, maximâ, crassâ medio complanatâ, versùs marginem plicis paucis, maximis, acutè angulatis, armatâ; valvulâ inferiori crassissimâ, ad marginem alteram paulo superanti; intùs medio albidâ, limbo densè fuscato, margine cardinali elongatâ, angusto; valvulâ superiori medio albido, planulato, impressione musculari maximo.*

THE TURBINATED OSTRÆA. Shell brown, very large, thick, flattened in the middle, armed towards the border with few very large acutely angular plaits; lower valve very thick, a little exceeding the other at the margin; within whitish in the middle, deep brown at the border, hinge margin elongated, narrow; upper valve whitish in the middle, flattened; muscular impression very large.

LAMARCK. Animaux sans vertèbres. Ostrææ, No. 44.

Hab. ——?

No locality is assigned to the specimen in the British Museum of this large oyster, which differs from *Ostræa Sinensis* chiefly in the magnitude and angularity of the plaits.

February, 1871.

30. a.

31. a.

31. b.

32.

30. b.

33.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

OSTRÆA.

PLATE XV.

Species 30. (Fig. *a*, *b*, Mus. Brit.)

OSTRÆA RADIX. *Ost. testâ subcompressâ, tenuiusculâ, irregulari, oblongâ, radiatim plicatâ, plicis laxis, rotundatis, albido-subpurpureâ, vel omnino fuscâ, purpureo vel fusco lineatim strigatâ; valvulâ inferiori foliaceâ, foliis exstantibus adhærentibus armatâ; valvulâ superiori alteram æquanti.*

THE ROOT OSTRÆA. Shell subcompressed, rather thin, irregular, oblong, radiately plicated, plaits loose, rounded; purplish white, or brown all over, linearly striped with purple or brown; lower valve foliaceous, armed with outstanding adhering foliations; upper valve equalling the other.

SOWERBY.

Hab. ——?

I do not find that any author has yet named this species, which appears fairly to merit distinction. Fig. *a*, however, is not very characteristic, the plaits being nearly obsolete.

Species 31. (Fig. *a*, *b*, Mus. Brit.)

OSTRÆA MORDAX. *Ost. testâ perpendiculariter oblongâ, compressâ, ad marginem profundè lobatâ, intùs inter lobas acutè denticulatâ; valvulâ inferiori crassâ, medio albidâ, limbo inter denticulas densè fusco-purpureo; margine cardinali recto, ad terminos quadrato; valvulâ superiori subcinnamoneâ, purpureo variegatâ, valdè planulatâ.*

THE BITING OSTRÆA. Shell perpendicularly oblong, compressed, deeply lobed at the margin, acutely denticulated within between the lobes; lower valve thick, whitish within, the border between the denticles deep purple-brown; hinge margin straight, squared at the ends; upper valve slightly cinnamon-tinted, variegated with purple, very flat.

GOULD. Wilson's Expedition.

Hab. California?

Species 32. (Mus. D'Orbigny in Brit.)

OSTRÆA SPRETA. *Ost. testâ subquadratâ, anticè subproductâ, cuneatâ; margine cardinali angusto, apicibus acuminatis; valvulâ inferiori subprofundâ, intùs variegatâ; valvulâ superiori purpureo strigatâ, rugosâ, versùs marginem irregulariter plicatâ.*

THE SLIGHTED OSTRÆA. Shell subquadrate, rather produced and cuneated anteriorly; hinge margin narrow, apices acuminated; lower valve rather deep, variegated within; upper valve purple striped, rough, irregularly plicated towards the margin.

D'ORBIGNY. Voy. Amér. Mérid.

Hab. Rio de Janeiro, Brazil.

A very gregarious species of irregular growth.

Species 33. (Mus. Brit.)

OSTRÆA CHILOENSIS. *Ost. testâ valdè foliaceâ, elongato-subtrigonâ, albidâ, intùs partim viridescenti, marginibus haud denticulatis, valvulâ inferiori alteram ad marginem superanti, vix profundâ; valvulâ superiori planulatâ, sublævigatâ, laxè squamatâ.*

THE CHILOE OSTRÆA. Shell very foliaceous, elongated, subtrigonal, whitish, partly greenish within, margins not denticulated; lower valve exceeding the other at the margin, not very deep; upper valve flattened, rather smooth, loosely scaled.

Hab. Chiloe.

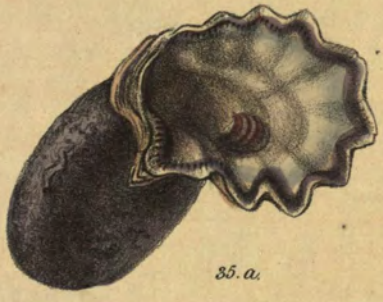
There is truly very little to distinguish this species from the "Native" variety of our edible oyster. It is, however, of thinner growth and more tapering towards the hinge.

February, 1871.

34. a.

34. b.

34. c.



35. a.

35. b.

35. c.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

OSTRÆA.

PLATE XVI.

Species 34. (Mus. Brit.)

OSTRÆA CUCULLATA. *Ost. testâ subtrigonâ solidissimâ, plicatâ, plicis angularibus, plerumque magnis prope apicem albidâ, versùs marginem purpureâ fasciis densioribus strigatâ; valvulâ inferiori crassâ, alteram ad marginem superanti, subtus marginem cardinalem cucullatâ cardine elongato, frequenter ad umbonem valdè productâ, plicis elongatis, nonnunquam rotundatis et imbricatis; valvulâ superiori medio planulatâ versùs marginem plicatâ.*

THE HOODED OSTRÆA. Shell subtrigonal, very solid, plaited, plaits angular, generally large, whitish near the apex, purple towards the margin, striped with deeper bands; lower valve thick, overlapping the other at the margin, hooded under the hinge margin, hinge elongated, frequently much produced at the apex; plaits elongated, sometimes rounded and imbricated; upper valve flat in the middle, plaited towards the margin.

BORN. Mus. Ind. Cæs. Tab. 6, f. 11, 12.

Ostræa cornucopiæ. Chemnitz, f. 679.

Ostræa Forskali. Chemnitz, f. 671 bis 6.

Considering the great variation observable in this species, particularly in the elongation of the hinge, I think Mr. Hanley right in referring to it the *Ostræa cornucopiæ* and the *Ostræa Forskali* of Chemnitz. The latter is represented by our fig. *a*, from a specimen in the collection of the British Museum, which has the hinge elongated to an enormous extent, the result of the specimen having been attached only by a small part of its surface.

Species 35. (Mus. Sowerby.)

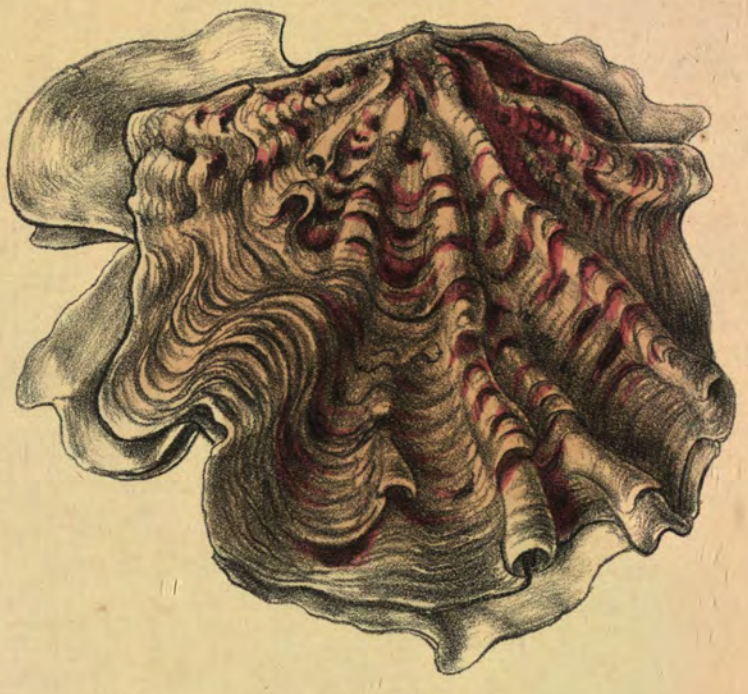
OSTRÆA MEXICANA. *Ost. testâ ad lapides adhærenti, ovatâ, tenui, subcompressâ, ad marginem laxè plicatâ; valvulâ inferiori costatâ, haud profundâ, albidâ, purpureo pictâ, alteram ad marginem superanti; valvulâ superiori medio convexo, versùs marginem plicato, albido, vel fulvo, lineis strigisque fuscis vel purpureis, et versùs apicem fasciâ medianâ subpurpureâ, fasciis albis duabus marginatâ, radiatâ; apicibus incurvis, cardine tenui, angusto.*

THE MEXICAN OSTRÆA. Shell adhering to pebbles, ovate, thin, subcompressed, loosely plaited at the margin; lower valve ribbed, not deep, whitish, painted with purple, overlapping the other; upper valve convex in the middle, plaited towards the margin, whitish, or fulvous, rayed with brown or purple lines and stripes, and towards the apex a central purplish band edged with two white bands; apices curved inwards; hinge thin, narrow.

SOWERBY.

Hab. Tehuantepec, Mexico.

A rather variable shell, having some relations with the preceding. It is a much thinner shell, with no tendency to a trigonal form, to a prolongation of the hinge, or to any depth of hollow under the hinge.



36. a.

37.

36. b.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

OSTRÆA.

PLATE XVII.

Species 36. (Fig. *a*, Mus. Brit.; *b*, Mus. Taylor.)

OSTRÆA IMBRICATA. *Ost. testâ foliaceâ, tenui, laxè radiatim plicatâ, rosea, maculis purpureis magnis irregularibus ornatâ, vel pallidè fulvâ super plicas rubrofusco tinctâ; plicis medianis magnis, bifurcatis, angulatim rotundatis, ad angulos imbricatim tubulosis; valvâ inferiori frequenter foliaceâ.*

THE IMBRICATED OYSTER. Shell foliaceous, thin, loosely radiately plicated, pink, ornamented with large purple irregular spots, or pale fawn tinted with reddish brown; middle folds large, bifurcated, angularly rounded, with imbricated tubes at the angles; lower valve often foliaceous.

LAMARCK. Anim. sans vert. Ostræa, No. 46.

Hab. China.

Like *Ostræa Hyotis*, but of looser and less solid texture, variegated in colours, and the deep central plicæ less angular.

Species 37. (Mus. Hanley.)

OSTRÆA CYRNUSII. *Ost. testâ oblongo-subtrigonâ, pallidè corneâ, planulatim squamulatâ, ponderosâ; valvâ sinistrâ crassissimâ, extus laminatim foliaceâ; cardine elongato, lato, in medium profundo; impressione musculari maximâ, subreniformi.*

THE CORSICAN OSTRÆA. Shell oblong subtrigonal, pale horny, flatly squamose, ponderous; left valve very thick, with leafy laminæ outside; hinge elongated, wide, deep in the middle; muscular impression very large, somewhat reniform.

PAYRADAU. Mollusques de l'Isle de Corse.

Hab. Island of Corsica.

One of the numerous forms which may be ultimately resolved into the *Ostræa Edulis*, but which, on account of its very laminated structure and heavy substance, taken in conjunction with the development of the extraordinarily broad hinge, may usefully have a specific designation applied to it.

September, 1871.

39.

38.a.

40.a.

40.

38.

40.c.

Sowerby, del. et lith.

Vincent Brooks Day & Son, Imp

OSTRÆA.

PLATE XVIII.

Species 38. (Fig. *a*, *b*, Mus. Taylor).

OSTRÆA SUBTRIGONA. *Ost. testâ subtrigonâ, oblongâ vel subquadratâ, ponderosâ, versus umbones subangustatâ, ad marginem ventralem latâ, quadratâ; margine valide plicato; valvâ inferiori profundâ, albido-subviridi, purpureo marginatâ, extùs radiatim plicatâ, fulvo et purpureo concentricè fasciatâ; cardine acuminato, lateribus propè cardinem crenulatis.*

THE SUBTRIGONAL OSTRÆA. Shell subtrigonal, oblong or subquadrate, ponderous, rather narrowed toward the umboes, broad at the ventral margin, quadrate; margin strongly plicated, lower valve deep, greenish white, edged with purple, without radiately plicated, concentrically banded with fawn and purple; hinge acuminated, sides crenulated near the hinge.

SOWERBY.

Hab. Australia.

The sculpture of this shell is bold and large; and the square character of the ventral margin is striking.

Species 39. (Mus. Hanley.)

OSTRÆA TULIPA. *Ost. testâ tenui, elongato-subovatâ, lævigatâ, purpureâ, versùs margines pallidâ, propè umbonem fasciâ albâ medianâ radiatâ; valvulâ inferiori profundâ, margine tenuissimo; intùs albido, purpureo tincto; impressione musculari parvo, purpureo.*

THE TULIP OSTRÆA. Shell thin, elongately-subovate, smooth, purple, pale towards the margins, rayed near the umbo, with a white medial band; lower valve deep, with very thin margin; inside whitish tinted with purple; muscular impression small, purple.

LAMARCK. Anim. sans vert. Ostræa, No. 10.

Ostræa Æquatorialis, D'Orbigny?

Hab. Central America, on Mangroves.

Allied to *Ostræa Rhizophoræ* and *O. parasitica*, of which it may possibly be a variety.

Species 40. (Fig. *a*, Mus. Taylor; *b*, *c*, Mus. Hanley.)

OSTRÆA FOLIUM. *Ost. testâ tenuiusculâ, fuscâ aut fusco-purpuræâ, ad Rhizophoras adhærenti per lobis elongatis valvulæ inferioris; valvulâ superiori in medio in costâ tubæformi elevatâ, ad latera divaricatim plicatâ; plicis rotundis, lævigatis.*

THE LEAF OSTRÆA. Shell rather thin, brown or brownish purple, adhering to mangroves by elongated lobes of the lower valve; upper valve in the middle elevated into a tube-shaped rib, at the sides divergently ribbed; ribs rounded, smooth.

GMELIN. Syst. Nat. Linn.

Ostræa sabrella. (test. jun.) Lamarck.

Hab. Central America, on roots of mangroves.

This oyster throws out lobes of its shell to reach points of attachment.

41 a

41 b

41 c

42

43 a.

43 b.

Sowerby, del et lith.

Vincent Brooks Day & Son, Imp.

OSTRÆA.

PLATE XIX.

Species 41. (Fig. *a*, Mus. Brit.; *b*, *c*, Mus. Hanley.)

OSTRÆA FRONS. *Ost. testâ foliaceâ, tenuiusculâ, plerumque latâ, per lobas testaceas ad radices adhærenti, subpurpureo-fuscâ, divaricatim plicatâ, plicis ad marginem magnis, acutangularibus; intùs pallidè subaureo-fulvâ, cardine valvæ sinistræ parvâ.*

THE LEAFLET OSTRÆA. Shell foliaceous, rather thin, mostly broad, adhering to roots by shelly lobes, purplish brown, divergently plicated; plications large, sharply angular at the margins; inside pale golden fawn; hinge of the left valve small.

LINNÆUS. Syst. Nat.

Ostræa limacella, Lamarck.

Ostræa rubella, Lamarck.

Ostræa Erucella, Lamarck.

Hab. West Indies.

Differing from *Ostræa folium* in the acutely angular plaits; and whereas it is the prevailing habit of the *O. folium* to be attached lengthwise to the roots and stems of seaweeds, the present species is generally attached crosswise.

Species 42. (Mus. Hanley.)

OSTRÆA RETUSA. *Ost. testâ elongatâ, linguæformi, tortuoso-arcuatâ, solidâ, concentricè laminatâ, albidâ, purpureo tincto, intùs albâ, purpureo-rubescente versùs marginem ventralem suffusâ; marginibus lateralibus leviter crenulatis; impressione musculari elongatâ; cardine lato, utrâque valvâ producto; valvâ inferiori perfoliaceâ.*

THE OBSOLETE OSTRÆA. Shell elongated, tongue-shaped, tortuously arched, solid, concentrically laminated, whitish tinted with purple, white within, suffused with reddish purple near the ventral margin; lateral margins slightly crenulated; muscular impression elongated; hinge wide, produced in each valve; lower valve very foliaceous.

PEASE. ——?

Hab. Sandwich Islands.

This shell is found only in a half-fossil state.

Species 43. (Fig. *a*, *b*, Mus. Hanley.)

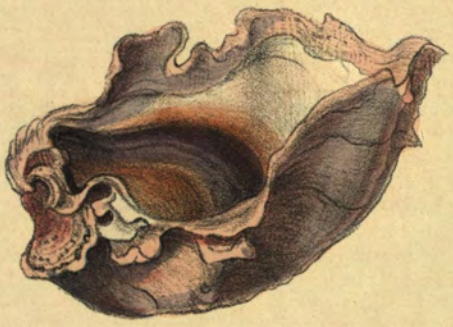
OSTRÆA QUERCINUS. *Ost. testâ suborbiculari, irregulariter rugatâ, ad marginem plicatâ, compressâ, obscurè purpureâ; valvâ inferiori subcomplanatâ, superiori convexiusculâ; intùs quercinus, margine albido, strigato, fimbriato; impressione musculari maximo, concentricè strigato.*

THE OAK OYSTER. Shell suborbicular, irregularly rugged, plaited at the margin, compressed, dull purple; lower valve rather flattened, upper rather convex; within oak-coloured, margin whitish, striped, fimbriated; muscular impression very large, concentrically striped.

SOWERBY.

Hab. ——?

A remarkable shell in Mr. Hanley's collection, which I can assign to no known species. The oak-wood colouring of the interior and the large size of the muscular impression, are the distinguishing characteristics.



44 a.

45 a.

45 b

47 a.

47 b.

46

44 b.

Sowerby, del et lith

Vincent Brooks Day & Son, Imp.

OSTRÆA.

PLATE XX.

Species 44. (Fig. *a*, *b*, Mus. Hanley.)

OSTRÆA COCHLEAR. *Ost. testâ tenuissimâ, ovatâ vel suborbiculari, foliaceâ; valvâ inferiori profundissimâ, albâ vel purpureo strigatâ, intùs sæpe prope cardinem et medio vividè fuscâ; cardine trigono; valvâ superiori compressâ, margine reflexo, purpureâ, prope marginem radiatim strigatâ.*

THE SPOON OSTRÆA. Shell very thin, ovate or suborbicular, foliaceous; lower valve very deep, white or striped with purple, often a bright brown within near the hinge and in the middle; hinge trigonal; upper valve compressed, with the margin reflected, purple, near the margin radiately striated.

POLI. Utriusque Siciliæ, vol. ii. tab. 28, f. 28.

Hab. Mediterranean.

Remarkable for its thinness and depth.

Species 45. (Fig. *a*, *b*, Mus. Hanley.)

OSTRÆA LIMA. *Ost. testâ parvâ, fuscâ, longitudinaliter subovatâ, subæquivalvi, tenui, valvâ inferiori profundâ, minutè striatâ; valvâ superiori subcompressâ, tuberculis parvis acutimarginatis trigonis rugatâ; cardine parvo.*

THE FILE OSTRÆA. Shell small, brown, longitudinally subovate, subequivalve, thin; lower valve deep, minutely striated; upper valve subcompressed, roughened with small sharp-edged trigonal tubercles; hinge small.

SOWERBY.

Hab. Sandwich Islands.

The peculiar rasp-like sculpture which roughens the upper valve in this interesting little species does not appear, as might at first be suspected, to be the result of any structure in the substances to which it is attached.

Species 46. (Mus. Hanley.)

OSTRÆA ROSACEA. *Ost. testâ irregulariter plicatâ, rugosâ, subtrigonâ, roseo-purpurascenti, intùs albâ, margine rubro rimatâ; valvâ inferiori profundâ, superiori compressâ; cardine parvo; impressione musculari subrotundâ, parvâ.*

THE ROSY OSTRÆA. Shell irregularly plicated, rough, subtrigonal, purplish pink, interior white, with margin red-bordered; lower valve deep, upper compressed; hinge small; muscular impression rather round, small.

CHEMNITZ (*Parasitica* var.). Conch. f. 997.

Ostræa plicatula var., Lamarck.

Hab. Lord Hood's Island.

Species 47. (Fig. *a*, *b*, Mus. Hanley.)

OSTRÆA CHEMNITZII. *Ost. testâ tenui, complanatâ, depressâ, plicatim et undulatim rugosâ, plerumque sinistrorsâ, ad margines lobatâ; valvâ superiori subviridi, prope umbones obscurè purpureo; margine dorsali post umbones expanso; umbonibus parvis; cardine lineari.*

CHEMNITZ'S OSTRÆA. Shell thin, flattened, depressed, roughened with plaits and undulations, generally sinistral, lobed at the margins; upper valve greenish, dull purple near the umboes; dorsal margin expanded behind the umboes; umboes small; hinge linear.

HANLEY. Proc. Zool. Soc., 1845.

Hab. China.

I understand by Mr. Hanley's expression "shell generally sinistral," that whereas in most species the apex is turned towards the posterior side as indicated by the position of the adductor muscle, in this species it is generally turned away from that side.

48 a

49 a

48 b

48 b.

50 a.

50 b.

Sowerby, del et lith

Vincent Brooks Day & Son, Imp

OSTRÆA.

PLATE XXI.

Species 48. (Fig. *a*, *b*, Mus. Taylor.)

OSTRÆA LACTEA. *Ost. testâ ad Rhizophoras adhærenti, radiatim plicatâ transversè subovatâ, solidâ, lacteâ-roseo fulvoque tinctâ, subtùs cæruleâ, intùs castaneo auroque subviridi pictâ, marginibus cæruleis; impressione musculari utráque valvâ densè castaneâ; marginibus lateralibus versus umbones denticulatis; valvæ superioris costis rotundis depressiusculis, valvæ inferioris subangulatis, profundis rugatis, ad marginem valvam superiorem superantibus.*

THE MILK OSTRÆA. Shell adhering to mangroves, radiately plicate, transversely subovate, solid, milk-white, tinted with rose and fawn, bluish underneath, inside painted chestnut and greenish gold with blue margins; muscular impression in each valve deep chestnut; lateral margins denticulated towards the umboes; ribs of the upper valve rounded, rather depressed, of the lower valve slightly angular, deep wrinkled, overreaching the upper valve at the margin.

SOWERBY.

Hab. —— ?

The blue tinted and rather regular ribs of the under valve, and the golden tinted chestnut painting of the interior, render this rather a pretty species.

Species 49. (Fig. *a*, *b*, Mus. Taylor.)

OSTRÆA ATTENUATA. *Ost. testâ longitudinaliter attenuatâ, angustissimâ solidâ, lateraliter arcuatâ, pallidâ supernè fusco concentricè strigatâ, intùs margine crenato, nigrescenti, impressionibus muscularibus nigris, cuneatis; cardine lato, producto, quadrato, valvæ inferioris elongato.*

THE ATTENUATED OSTRÆA. Shell longitudinally attenuated, very narrow, solid, laterally arched, pale, concentrically striped with brown, margin within crenulated, blackish, muscular impressions black, cuneate; hinge wide, produced, square, that of the lower valve elongated.

SOWERBY.

Hab. —— ?

The long narrow form of this species, and the denticulations of its darkly coloured inner border, mark it as very distinct. The concentric stripes described would not probably appear if the outer surface of the upper valve were not worn.

Species 50. (Fig. *a*, *b*, Mus. Hanley.)

OSTRÆA TUBERCULARIS. *Ost. testâ ovato-subtrigonâ, valdè inæquivalvi, foliaceâ, suboblíquâ; valvâ superiori parvâ, complanatâ, rugoso-squamosâ, pallidè subvirido-fuscatâ, apice subspirali; valvâ inferiori profundâ, utrinque auriculatâ, ad margines expansâ, intùs versus margines radiis violaceis pictâ, extùs ferè omnino purpureâ, lævigatâ, plicis divergentibus, tuberculiformibus, distantibus armatâ; margine plicato, cardine parvo.*

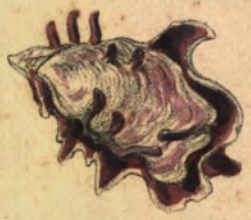
THE TUBERCULAR OSTRÆA. Shell ovally subtrigonal, very inequivalve, foliaceous, suboblique; upper valve small, flattened, roughly squamose, pale greenish brown, with subspiral apex; lower valve deep, auriculated on both sides, expanded at the margins, painted towards the margins inside with violet rays; outside nearly all over purple, smooth, armed with divergent tuberculiform distant plaits; margin plaited; hinge small.

LAMARCK.

Hab. Island of Timor.

This shell is supposed by Mr. Hanley to be the *Ostræa plicatula* of Philippi, but not of the earlier authors. It appears to me very fairly to represent the *Lamarckian* species to which I have ventured to assign it.

51.



52 b.

52 a.

52 c

52 d.

Sowerby del et lith.

Vincent Brooks Day & Son, lmp.

OSTRÆA.

PLATE XXII.

Species 51. (Mus. Taylor.)

OSTRÆA LACERANS. *Ost. testâ elongato-subtrigonâ, longitudinaliter attenuatâ, tenui, foliaceâ, pallidâ, intùs purpureo tinctâ; ad marginem ventralem lobatâ, cardine trigono, producto; valvâ superiori depressâ, subconcavâ; valvâ inferiori costis acutis, imbricatis, subspiniferis, distantibus sculptâ.*

THE TORN OYSTER. Shell elongate subtrigonal, longitudinally attenuated, thin, foliaceous, pale, tinted inside with purple, lobed at the ventral margin; hinge trigonal, produced; upper valve depressed, rather concave; under valve sculptured with sharp, imbricated, and rather spiniferous distant ribs.

HANLEY. Proc. Zool. Soc., 1845.

Hab. Senegal.

Species 52. (Fig. *a*, *b*, Mus. Brit.)

OSTRÆA GLOMERATA. *Ost. testâ crassâ, irregulari, acuticostatâ, margine dentato vel lobato, valdè inæquivalvi, valvâ superiori operculari compressâ, laminis crassis concentricis rugatâ; valvâ inferiori cucullatâ, purpureâ, intùs albidâ, purpureo aut nigro marginatâ; marginibus lateralibus denticulatis, cardine plerumque attenuato, producto, acuminato.*

THE CONGLOMERATED OSTRÆA. Shell thick, irregular, sharp-ribbed, with the margin dentated or lobed, very inequivalve; upper valve opercular, compressed, wrinkled with thick concentric laminæ; lower valve cucullated, purple, while within edged with purple or black; latera margins denticulated; hinge generally attenuated, produced, pointed.

GOULD. Wilkes' Expedition.

Hab. ——?

It is difficult to distinguish this species from *Ostræa cucullata*, if indeed they be not identical. The ribs of *O. glomerata* are more numerous and strong, not broadly angular as in Fig. 34, *a*, *b*. The young are often spinose as in Fig. 52, *b*. Never, perhaps, so much so as in the true *O. spinosa*.

53.a.

54.

55.

53.b.

Sowerby, del.et lith.

Vincent Brooks Day & Son, Imp.

OSTRÆA.

PLATE XXIII.

Species 53. (Fig. *a*, *b*, Mus. Taylor.)

OSTRÆA BICOLOR. *Ost. testâ ovato-subtrigonâ, solidâ, compressâ, albidâ, purpureo latissimè biradiatâ, vix lamellosâ, margine simplici, nonnunquam undulato; umbonibus acuminatis; valvulis intùs albis, marginibus lateralibus lævigatis.*

THE TWO-COLOURED OSTRÆA. Shell ovate-subtrigonal, solid, compressed, whitish, with two very broad purple rays, scarcely lamellar, margin simple, sometimes undulated, umboes acuminated; valves white within, the lateral margins smooth.

HANLEY. Conchological Miscellany. Ost. fig. 2.

Hab. Senegal (?).

The original specimen described by Mr. Hanley was attached by its entire surface to the bottom of a ship. One of Mr. Taylor's specimens has portions of wood adhering to it, which have been pierced by specimens of a Teredo.

Species 54. (Mus. Hanley.)

OSTRÆA LAMELLOSA. *Ost. testâ utrâque valvâ valdè foliaceâ et squamiferâ, albidâ, purpureo leviter variegatâ, ovatâ, crassâ; valvâ superiori subdepressâ, versùs umbonem lævisculâ, concentricè strigatâ squamis purpureis, extantibus laminatâ; valvâ inferiori profundè excavatâ, laminibus extantibus lobatis ornatâ.*

THE LAMELLAR OSTRÆA. Shell very foliaceous and squamiferous in both valves, whitish, slightly variegated with purple, ovate, thick; upper valve subdepressed, rather smooth and concentrically striped towards the umbo, laminated with purple outstanding scales; lower valve deeply excavated, ornamented with outstanding lobed laminæ.

BROCCHI, as in Philippi. Moll. Sic.

Hab. Lake Fusaro, near Naples.

It may be considered an open question whether this form, like *Ostræa Cyrnusii*, should be regarded as a distinct species, or merely a variety of *Ostræa edulis*. The specimen in Mr. Hanley's collection was identified by Philippi himself.

Species 55. (Mus. Hanley.)

OSTRÆA DEPRESSA. *Ost. testâ suborbiculariter subtrigonâ, complanatâ, depressâ, albidâ, radiis tribus purpureis latis pictâ; valvulâ superiori laminis concentricis squamorum indutâ; squamis lævibus, laceratis, decumbentibus; umbonibus parvis; margine dorsali utrinque declivi.*

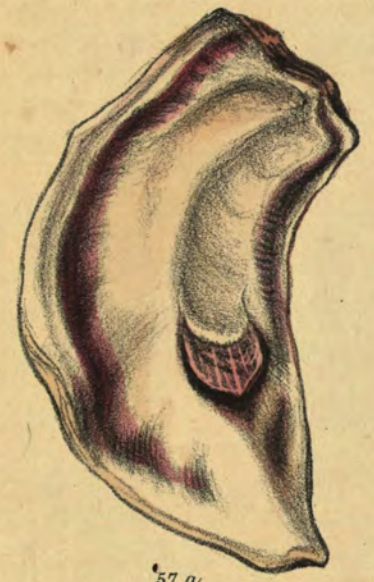
THE DEPRESSED OSTRÆA. Shell suborbicularly subtrigonal, flattened, depressed, whitish, painted with three broad purple rays; upper valve covered with layers of scales; scales smooth, lacerated, decumbent; umboes small, dorsal margin sloped on each side.

PHILIPPI. Mollusca Siciliæ.

Hab. Adriatic.

This is usually regarded as a form of *Ostræa edulis*, assuming a flattened orbicular form on account of the flat surface to which the shell is attached. The appearance of this specimen is, however, remarkable for the broad purple rays, which are not seen in *Ostræa edulis*, except in very young specimens, such as represented in our Plate v. fig. 8 d. And in that case there are not, as here, three distinct rays with broad intervals, but the young shell is nearly covered with purple divided by a light ray in the centre. *Ostræa depressa* may possibly be a species hereditarily distinct.

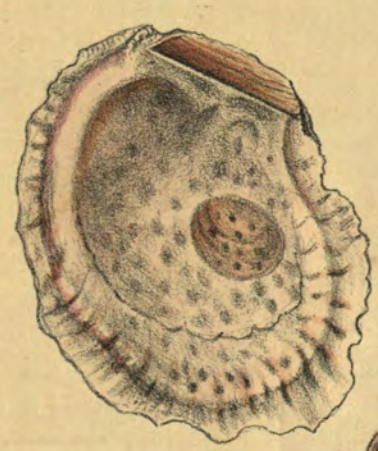
56. a.



57. a.

56. b.

57. b.



58 a.

56. c.

58. b.

Sowerby, del. et lith.

Vincent Brooks Day & Son, Imp.

OSTRÆA.

PLATE XXIV.

Species 56. (Fig. *a*, *b*, *c*, Mus. Hanley.)

OSTRÆA PALMIPES. *Ost. testâ compressissimâ subquadratâ, tenui, valdè inæquivalvi, inæquilaterali, fulvâ, purpureo vel nigro radiatâ; latere antico brevissimo declivi, margine dorsali recto, margine ventrali subrotundo, lobato; umbonibus parvis, acuminatis; valvulâ superiori lævigatâ, parvâ; valvulâ inferiori majùs expansâ, extùs radiatim striatâ et distanter costatâ; costis septem, tuberculatis, ad marginem productis, interstitiis complanatis.*

THE PALM-FOOTED OSTRÆA. Shell much compressed subquadrate, thin, very inequivalve, inequilateral, fulvous, rayed with purple or black; anterior side very short, sloped; dorsal margin straight, ventral magin rounded, lobed; umboes small, acuminated; upper valve smooth, small, lower valve more expanded, radiately striated and distantly ribbed without; ribs 7, tuberculated, produced at the margin, interstices flattened.

SOWERBY.

Hab. Philippines.

The peculiar characteristic of this rather pretty oyster is found in the outer surface of the lower valve, which from the radiating ribs ending in lobes and the flattened surfaces between, presents the appearance of the webbed foot of a bird.

Species 57. (Fig. *a*, *b*, Mus. Hanley.)

OSTRÆA RENIFORMIS. *Ost. testâ crassâ, elongatâ, angustâ, lateraliter arcuatâ, albidâ, inæquivalvi; valvulâ superiori compressâ, complanatâ, prpè margines subfoliaceâ, intùs purpureo marginatâ; valvulâ inferiori profundè excavatâ; margine ventrali utrâque valvâ acuminatâ, margine cardinali recto; impressionibus muscularibus purpureonigrescentibus.*

THE RENIFORM OSTRÆA. Shell thick, elongated, narrow, laterally arched, whitish, inequivalve; upper valve compressed, flattened, a little leafy towards the margins, edged within with purple; lower valve deeply excavated, ventral margin in each valve acuminated, hinge margin straight, muscular impressions blackish purple.

SOWERBY.

Hab. —— ?

The specimen is peculiarly arched inwards on the posterior, and outwards on the anterior side.

Species 58. (Fig. *a*, *b*, Mus. Hanley.)

OSTRÆA LENTIGINOSA. *Ost. testâ obliquè ovato-suborbiculari, sublenticulari; albidâ, subrugosâ, intùs luteo punctatâ, marginibus radiatim striatis, expansis, sublaqueatis; impressionibus muscularibus rotundis; cardine elongato, angusto, recto; latere antico brevi, rotundo; latere postico producto, valvâ inferiori foliaceâ.*

THE FRECKLED OSTRÆA. Shell obliquely ovate-suborbicular, sublenticular; whitish, rather rough, inside spotted with yellow, margins radiately striated, expanded, a little fluted; muscular impressions rounded; hinge elongated, narrow, straight; anterior side short, rounded; posterior side produced; lower valve leafy.

SOWERBY.

Hab. —— ?

The interior surface of this species is distinguished by a sprinkle of yellowish or purplish spots. The shell is otherwise of a dull stone-coloured white.

59.

60.a.

60. b.

61.

60. c.

Sowerby, del.et lith.

Vincent, Brooks, Day & Son, Imp.

OSTRÆA.

PLATE XXV.

Species 59. (Mus. Taylor.)

OSTRÆA MULTIRADIATA. *Ost. testâ rugosâ, compressâ, tenui, fulvâ, strigis numerosis purpureis radiatâ; marginibus expansis, laqueatis, foliaceis; latere antico supernè expanso, alato; latere postico infrà expanso, valvulâ inferiori irregulariter costatâ et interstriatâ; cardine parvo, trigono.*

THE MANY-RAYED OSTRÆA. Shell rugose, compressed, thin, fulvous, rayed with numerous purple striæ, margins expanded, fluted, leafy; anterior side expanded and winged above; posterior side expanded below, lower valve irregularly ribbed and interstriated; hinge small, trigonal.

SOWERBY.

Hab. ——?

The outer surface of the lower valve is peculiarly sculptured, with short ribs and striæ between and upon them.

Species 60. (Fig. *a*, *b*, *c*, Mus. Taylor.)

OSTRÆA AURICULATA. *Ost. testâ solidâ, squamiferâ, suborbiculari, subfuscâ, intùs albidâ viridi variegatâ; marginibus lateralibus et ventralibus densè plicatis, margine dorsali utrinque auriculatâ; margine postico ad latus excavato, ad marginem ventralem acutè producto; valvâ superiori complanatâ, densè squamosâ et costellatâ, valvâ inferiori valdè convexâ, infrà auriculas densè divaricatim costellatâ, medio et ad marginem ventralem costis majoribus, inæqualibus, nonnullis prominentè tuberculato-spinosis ornatâ.*

THE AURICULATED OSTRÆA. Shell solid, squamiferous, suborbicular, brownish, whitish within variegated with green; lateral and ventral margins closely ribbed, dorsal margin auriculated on each side, posterior margin excavated at the side, acutely produced at the ventral margin; upper valve flattened, closely scaly and ribbed; lower valve convex, closely divergently ribbed; in the middle and towards the ventral margin ornamented with larger, unequal ribs, some of them prominently tubercularly spinose.

SOWERBY.

Hab. Japan.

The specimens of the following species are seen growing upon a large under valve of this species, which does not show the auricles so clearly as in fig. 60, *a*, *b*, but in which the excavated margin and the diverging side ribs under the auricles are seen still more plainly.

Species 61. (Mus. Taylor.)

OSTRÆA MULTICOSTATA. *Ost. testâ ovato-oblongâ, fusco-purpureo, medio concentricè strigato, versùs margines densè squamosâ et costellatâ, intùs albidâ, versùs margines purpureo radiatâ; valvulâ superiori tumidiusculâ; valvulâ inferiori extùs purpureâ, radiatim costellatâ, costellis rotundatis, ad latera divaricatis.*

THE MANY-RIBBED OSTRÆA. Shell ovately oblong, purplish brown, concentrically striped in the middle, densely squamose towards the margins, purple rayed; upper valve rather tumid; lower valve purple without, radiately ribbed; ribs rounded, divergent at the sides; margins closely crenulated.

SOWERBY.

Hab. Japan.

The only specimens I have met with are attached to the lower valve of a specimen of the preceding species.

62. a.

62. b.

62. c.

63.

64. a.

64. b.

65.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

OSTRÆA.

PLATE XXVI.

Species 62. (Fig. *a*, *b*, *c*, Mus. Hanley.)

OSTRÆA GUINEENSIS. *Ost. testâ multiformi, variè tortuosâ, plerumque oblongâ, solidiusculâ, sordidè albâ, sublamellosâ; intùs viridi, margine intùs denticulato et indentato; impressione musculari reniformi; cardine parvo, trigono; apice acuminato.*

THE GUINEA OSTRÆA. Shell multiform, variously tortuous, generally oblong, rather solid, dull white, rather lamellose; green within, margin denticulated and indented within, muscular impression reniform; hinge small, trigonal, apex acuminated.

DUNKER. Pl. 43. f. 12–18.

Hab. Guinea.

This little species assumes various forms, exhibits no external painting, and is always tinted with green inside.

Species 63. (Mus. Hanley.)

OSTRÆA LUGUBRIS. *Ost. testâ tenui, obliquè subtrigonâ, leviter auriculatâ, griseo-purpureâ, obscurè radiatâ, sublævigatâ, nitenti, intùs albidâ; latere antico ad marginem ventralem producto; valvulâ superiori complanatâ, suboperculari, valvulâ inferiori convexâ obscurè costellatâ; ad marginem alteram valvam superantè, cardine angusto elongato acuminato; impressione musculari reniformi nigrescenti.*

THE LUGUBRIOUS OSTRÆA. Shell thin, obliquely subtrigonal, slightly auriculated, greyish purple, obscurely rayed, rather smooth, shining, whitish within; anterior side produced at the ventral margin; upper valve flattened, subopercular, lower valve convex, obscurely ribbed; at the margin expanded beyond the upper valve; muscular impression reniform, nearly black.

SOWERBY.

Hab. North America?

The specimen is singularly produced on the anterior side.

Species 64. (Fig. *a*, *b*, Mus. Hanley.)

OSTRÆA CIRCUMSUTUS. *Ost. testâ ovato-oblongâ, plerumque angustâ, ad rhizoporas adhærenti, ad marginem plicatâ, albidâ vel purpureâ; intùs albâ, purpureo aut viridi tinctâ, margine valvulæ superioris omnino denticulato, valvulæ inferioris indentato.*

THE STITCHED OSTRÆA. Shell ovately oblong, generally narrow, adhering to mangroves, plicated at the margin, whitish or purplish; within white tinted with purple or green; margin of the upper valve denticulated in every part, and that of the lower valve indented.

GOULD. United States Expedition.

Hab. Massachusetts?

This species is named from the stitch-like appearance of the denticles and corresponding indentations in the inner margin of the valves.

Species 65. (Mus. Hanley.)

OSTRÆA ALGOENSIS. *Ost. testâ suborbiculari, ventricosâ, subauriculatâ; valvulâ superiori convexâ, supernè nitenti, versùs marginem densè squamosâ, valvulâ inferiori extùs subconcavâ, irregulariter tuberculatâ, albâ; valvulis intùs albidis, impressionibus muscularibus maximis, reniformibus, concentricè viridi strigatis.*

THE ALGOA OSTRÆA. Shell suborbicular, ventricose, subauriculated; upper valve convex, shining above, closely squamiferous towards the margin; lower valve rather concave outside, irregularly tuberculated, white; valves whitish within, muscular impressions very large, kidney-shaped, concentrically striped with green.

SOWERBY.

Hab. Algoa Bay.

66. a.

67. a.

67. b.

68. a.

68. b.

68. c.

66. b.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

OSTRÆA.

PLATE XXVII.

Species 66. (Fig. *a*, *b*, Mus. Hanley.)

OSTRÆA SANDVICHENSIS. *Ost. testâ oblongo-trigonâ, divaricatim plicatâ, rugosâ, albâ, posticè productâ, purpureo pictâ; plicis centralibus magnis, lateralibus parvis; cardine parvo, angusto, valvulæ inferioris producto.*

THE SANDWICH ISLANDS OSTRÆA. Shell oblong-trigonal, divergently plicated, rugose, white, produced posteriorly, painted with purple; central plaits large, the lateral ones small; hinge small, narrow, that of the lower valve produced.

SOWERBY.

Hab. Sandwich Islands.

This pretty small species has entirely the external appearance of a *Plicatula*, and it is only on opening the specimen and examining the hinge, that its connexion with the genus *Ostræa* becomes apparent.

Species 67. (Fig. *a*, *b*, Mus. Taylor.)

OSTRÆA CRENULIFERA. *Ost. testâ multiformi, parvâ, subcompressâ, plerumque oblongâ, versùs apicem angustatâ marginibus plicatis; extùs albidâ, intùs subviridi, cardine parvo, trigono, valvulæ inferioris plerumque acuminatim producto; impressionibus muscularibus magnis.*

THE CRENULIFEROUS OSTRÆA. Shell multiform, small, subcompressed, generally oblong, narrow towards the apex, with plicated margins; whitish without, greenish within; hinge small, trigonal, that of the lower valve generally acuminately produced; muscular impressions large.

SOWERBY.

Hab. Red Sea.

The latero-marginal plications are constant in all the varied forms of this interesting little species, which in other respects, particularly in the green tinted interior, resembles *Ostræa Guineensis*.

Species 68. (Fig. *a*, *b*, *c*, Mus. Hanley.)

OSTRÆA PLICATA. *Ost. testâ compressâ, solidâ, plerumque oblongâ, purpureo strigatâ vel maculatâ, rugosâ, ad marginem plicatâ; margine intùs prope cardinem utrinque leviter crenatâ; impressionibus muscularibus magnis; cardine lato, valvulæ inferioris producto; apicibus acuminatis.*

THE PLAITED OSTRÆA. Shell compressed, solid, generally oblong, striped or spotted with purple, rough, plaited at the margin, slightly crenated within near the hinge on both sides; muscular impressions large; hinge wide, that of the lower valve produced; apices acuminated.

CHEMNITZ. Conch. f. 232.

Ostræa plicatula, Gmelin.

Hab. China, East Indies.

The various forms which may be referred to this species are all plaited round the margin of both valves, but closely so, in the manner of the smaller *Ostræa crenifera*.

69 a

69 b

69 c

70

71 a

71 b

72

OSTRÆA.

PLATE XXVIII.

Species 69. (Fig. *a*, *b*, Mus. Brit.; *c*, Mus. Hanley.)

OSTRÆA CONCHAPHILA. *Ost. testâ parvâ, ad conchas adhærenti, formâ varianti, depressâ, albidi, purpureo strigatâ aut maculatâ, tuberculis parvis divergentibus leviter armatâ, intùs albâ aut purpureâ, cicatrice subcœruleâ, margine versùs cardinem crenulato; cardine tenui, valvulâ inferiori nunquam profundâ.*

THE SHELL-LOVING OSTRÆA. Shell small, adhering to shells, various in form, depressed, whitish, striped or spotted with purple, slightly armed with small diverging tubercles, white or purple within, cicatrix ash-grey, margin crenulated towards the hinge; hinge thin; lower valve never deep.

CARPENTER. Mazatlan Shells in the British Museum, p. 161.

Hab. Mazatlan. Mexico. Panama.

Our figure *a* is a magnified view of a very small shell found adhering to an *Anomia*.

Species 70. (Mus. Hanley.)

OSTRÆA INERMIS. *Ost. testâ irregulari subrotundâ, subcompressâ, rugosâ plicis magnis, imbricatis, divergentibus, angulatis, haud tuberculiferis sculptâ, purpureâ, intùs subiridescenti, versùs marginem fuscâ, cicatrice magnâ, subrotundâ, marginibus propè cardinem crenulatis; umbonibus retrorsis; valvulâ inferiori tubiferâ.*

THE UNARMED OSTRÆA. Shell irregular roundish, subcompressed, rugose, sculptured with large imbricated, diverging, angular, not tubiferous plaits; purple, subiridescent within, brown towards the margin, cicatrix large, roundish; margin crenulated near the hinge; umboes turning backwards; lower valve tubiferous.

SOWERBY.

Hab. ——?

This shell has an affinity with *O. imbricata* on the one hand, and with *O. Chemnitzii* on the other. Its strong plications, which are imbricated but without tube-shaped tubercles, distinguish it from the first by their character, and from the second by their size and development.

Species 71. (Mus. Barclay.)

OSTRÆA CERATA. *Ost. testâ tenui, niveâ, rugosâ, depressâ, oblongo-ovatâ, inæquivalvi, margine crenulato; intùs niveâ, opacâ, cicatrice utrâque valvâ vividè castaneo, cardine rectiùsculo; valvâ inferiori latitudine alteram superanti, margine ventrali foliaceo.*

THE WAXED OSTRÆA. Shell thin, snow-white, rough, depressed, inequivalve, margin crenulated, snow-white, within opaque, cicatrix in each valve bright chestnut; hinge rather straight, the lower valve exceeding the other in width, ventral margin foliaceous.

SOWERBY.

Hab. Diego Garcia, Mauritius.

One of the very beautiful oysters obtained by Sir David Barclay from the interesting neighbourhood of the Mauritius.

Species 72. (Mus. Hanley.)

OSTRÆA HANLEYANA. *Ost. testâ tenui, fuscâ, purpureo pallido submaculatâ, subreniformi, valvâ inferiori complanatâ, foliaceâ, alteram longitudine et ad latera superanti, propè cardinem subauriculatâ, margine supernè crenulato; cicatrice inconspicuo, elongato, cardine brevi, valvâ superiori tuberculis inconspicuis divaricatis rugatâ.*

HANLEY'S OSTRÆA. Shell thin, brown, slightly spotted with pale purple, nearly reniform, lower valve flattened, foliaceous, exceeding the other in length and at the sides, subauriculated near the hinge, margin crenulated at the upper part, cicatrix inconspicuous, elongated, hinge short; upper valve roughened with inconspicuous diverging tubercles.

SOWERBY.

Hab. Sandwich Islands.

An interesting shell in the collection of Mr. Hanley which I can refer to no other species.

73ª

73 ♭

74

75

76ª

76 ♭

64 ?

Sowerby, del et. lith.

Vincent Brooks, Day & Son, Imp

OSTRÆA.

PLATE XXIX.

Fig. 64, *c*, Mus. Taylor.

The inner denticulations of this shell, not at first observed, prove it to be a variety of *Ostræa circumsuta*.

Species 73. (Fig. *a*, *b*, Mus. Taylor.)

OSTRÆA CYMBÆFORMIS. *Ost. testâ tenui, foliaceâ, albidâ, hic-illic purpureo suffusâ, valdè inæquilaterali, longitudinaliter attenuatâ; valvâ inferiori profundissimâ, cymbiformi, cardine attenuato, acutè cuneiformi, apice acuminato; valvâ superiori depressâ, complanatâ, vel excavatâ, margine dorsali rectiùsculo, apice parvo, acuto.*

THE CYMBIFORM OSTRÆA. Shell thin, foliaceous, whitish, here and there suffused with purple, very inequilateral, longitudinally attenuated; lower valve very deep, boat-shaped, hinge attenuated, acutely cuneiform, apex acuminated; upper valve depressed, flattened or excavated, dorsal margin rather straight, apex small, acute.

SOWERBY.

Hab. Florida.

The form of this species is very peculiar and the texture remarkably light.

Species 74. (Mus. Hanley.)

OSTRÆA MULTISTRIATA. *Ost. testâ compressâ, discoideâ, irregulariter subrotundâ; valvâ superiori fuscâ, paulò convexâ, striis radiantibus et divergentibus densis sculptâ, prope umbones leviter tuberculatâ, margine dorsali expanso, ventrali subcrenulato; umbonibus acuminatis, parvis; valvâ inferiori albâ, complanatâ.*

THE MULTISTRIATED OSTRÆA. Shell compressed, discoidal, irregularly rather rounded; upper valve brown, a little convex, sculptured with close radiating and diverging striæ, slightly tubercular near the umboes, dorsal margin expanded, ventral slightly crenulated; umboes acuminated, small; lower valve white, flattened.

HANLEY. Pro. Zool. Soc., 1846.

Hab. ——?

A highly characteristic shell, different in sculpture from any other.

Species 75. (Mus. Barclay.)

OSTRÆA AFFINIS. *Ost. testâ solidâ, rugosâ, purpureâ, transversè oblongâ, ad marginem plicis magnis, acutè angulatis undatâ; intùs medio aureo-subfuscâ, margine latè purpureo, cicatrice posticè laterali, magnâ, cinereâ, cardine parvo, trigono, anticè subterminali; margine interno utrâque valvâ granulato.*

THE ALLIED OSTRÆA. Shell solid, rough, purple, transversely oblong, undulated at the margin with large acutely angular plicæ; within golden brownish, with the margin broadly purple, cicatrix posteriorly lateral, large, ash-coloured, hinge small, trigonal, nearly terminal in front; internal margin granulated in each valve.

SOWERBY.

Hab. Diego Garcia, near the Mauritius.

Sent by M. Robilliart to Sir David Barclay, Bart.

Species. 76. (Mus. Taylor.)

OSTRÆA FLORIDENSIS. *Ost. testâ subarcuatâ, longitudinaliter subattenuatâ, solidâ, valdè inæquilaterali, valvâ inferiori ad marginem plicatâ, purpureo suffusâ, productâ, ad rhizophoras adhærenti, intùs ad marginem purpureâ, cicatrice castaneâ vel albâ; valvâ superiori paulo convexo, operculiformi, sublævigato.*

THE FLORIDA OSTRÆA. Shell somewhat arched, longitudinally rather attenuated, solid, very inequilateral, lower valve plicated at the margin, suffused with purple, produced, cicatrix chestnut or white; upper valve a little convex, operculiform, rather smooth.

SOWERBY.

Hab. Coast of Florida.

This is one of the Mangrove oysters, whose form so much depends upon the position in which they are attached. In both our specimens the lower valve rises considerably beyond the upper.

77a

78a

78b

77b

79

65

Sowerby, del et lith.

Vincent Brooks Day & Son Imp

OSTRÆA.

PLATE XXX.

Fig. 65, *b*, Mus. Taylor.

A beautiful group of young specimens of *Ostræa Algoensis*, Sowerby, growing on a mangrove root.

Species 77. (Fig. *a*, *b*, Mus. Barclay.)

OSTRÆA BARCLAYANA. *Ost. testâ solidâ, arcuatâ, reniformi, longitudinaliter productâ, inæquilaterali, valvâ superiori pallidè fulvâ, ad marginem ventralem posticè acuminatâ, propè et ad marginem costellis parvis divaricatim duplicatis sculptâ; valvâ inferiori propè marginem purpureâ, ad marginem albâ, plicatâ, dentatâ, ultrâ valvam superiorem longè productâ; cicatrice utraque valvâ reniformi, castaneâ; posticè sublaterali, margine interno valvæ superioris denticulato, inferioris indentato.*

BARCLAY'S OSTRÆA. Shell solid, arched, reniform, longitudinally produced, inequilateral, upper valve pale brownish, acuminated posteriorly at the ventral margin, near to and at the margin sculptured with little divergently duplicated riblets; lower valve near the margin purple, at the margin white, plicated, toothed, produced far beyond the upper valve; cicatrix in each valve reniform, chestnut sublateral posteriorly; internal margin of upper valve denticulated, of the under indented.

SOWERBY.

Hab. Point de Flaq, Mauritius.

The only specimen I have seen of this beautiful oyster is attached to a piece of scoriated lava. The sculpture consisting of divergent riblets near the outer margin of the upper valve, which may have been characteristic of the whole surface if it had been preserved, is sufficient to distinguish the species, besides its semilunar form and the beautifully fluted and toothed raised margin. I have pleasure in dedicating this species to Sir David Barclay, Bart., to whom I am indebted for much valuable information, and whose indefatigable researches in the Mauritius and its neighbouring islets, have led to the accumulation of a magnificent collection.

Species 78. (Fig. *a*, *b*, Mus. Hanley.)

OSTRÆA PES-TIGRIS. *Ost. testâ tenui, compressâ, longitudinaliter oblongâ, arcuatâ, superne subattenuatâ, versùs marginem ventralem obliquè expansâ, pallidè fulvâ, purpureo radiatim et divaricatim strigatâ et lineatâ; valvâ inferiori divaricatim plicatâ, alteram magnitudine superanti, plicis tuberculis nigro-purpureis armatis, ad terminos marginales productis, ungulatis; valvis intùs albis; cardine parvo.*

THE CAT'S-FOOT OSTRÆA. Shell thin, compressed, longitudinally oblong, arched, attenuated above, obliquely expanded towards the ventral margin, pale brown, divergently radiately striped and lineated, lower valve divergently plicated, exceeding the other in size; plicæ armed with blackish purple tubercles which are produced and talon-like at the ends; valves white within; hinge small.

HANLEY. Proc. Zool. Soc. 1845.

Hab. —— ?

The specimen from which our figure is taken does not seem to have the slightest affinity with *O. folium* to which it has been ascribed.

Species 79. (Mus. Hanley.)

OSTRÆA SPINOSA. *Ost. testâ compressâ, tenui, versùs cardinem acuminatâ, infrà subrotundâ, rugatâ; valvâ superiori spinis tubiformis nigro-purpureis extantibus armatâ.*

THE SPINOUS OSTRÆA. Shell compressed, thin, acuminated towards the hinge, roundish beneath, rough; upper valve armed with tube-shaped blackish-purple outstanding spines.

QUOY. Voy. Astrolabe, v. 3, pl. 76, f. 13, 14.

This may possibly be a young specimen of *Ostræa cucullata*, or *glomerata*; but it has none of the usual characteristics of either of those species when fully developed. The only indication of a connexion is the fact that a few spines are occasionally developed on some very young specimens of *Q. cucullata*. See plate xxii. f. 52, *b*.

November, 1871.

80 a

80 b

2 c

80 c

2 d

Sowerby, del et lith

Vincent Brooks Day & Son, Imp.

OSTRÆA

PLATE XXXI.

(Fig. 2, *c*, *d*, Mus. Barclay.)

Ostræa cucullina, Deshayes. A single specimen of this interesting little species was found on the new island that has within the last few years appeared off the Mauritius, Barclay Island. See Plate II., *f.* 2, *a*, *b*, copied from Deshayes, Ile de la Réunion.

Species 80. (Fig. *a*, *b*, *c*, Mus. Barclay.)

OSTRÆA VITREFACTA. *Ost. testâ solidâ, subcompressâ, subreniformi vel suborbiculari; valvâ inferiori superiorem superanti, ad lapides latè adhærenti; valvâ superiori fulvâ, purpureo strigatâ, nitidissimâ; margine interno valvæ inferioris indento, superioris denticulato, cicatrice utrâque valvâ subcentrali, magnâ, purpureo strigatâ.*

THE VITRIFIED OSTRÆA. Shell solid, subcompressed, rather reniform, or suborbicular; lower valve exceeding the upper, widely adhering to stones; upper valve fulvous, striped with purple, very shining, inner edge of the lower valve indented, of the upper denticulated, cicatrix in each valve subcentral, large, striped with purple.

SOWERBY.

Hab. Rivière de la rempart, Mauritius.

The species is commonly eaten in its locality. I have named it from the peculiar glassy appearance of the upper valve. The two specimens are in Sir David Barclay's collection.

November, 1871.

81

82a

82b

Sowerby del et lith.

Vincent Brooks Day & Son, Imp.

OSTRÆA.

PLATE XXXII.

Species 81. (Mus. Barclay.)

OSTRÆA NOBILIS. *Ost. testâ magnâ, ponderosâ, compressâ, discoideâ, subæquilaterali, suborbiculari, supernè expansâ, propè umbones albidâ, infrâ usque ad marginem cinereo-purpureâ, plicis magnis divaricatis lævigatis, subfornicatis radiatâ; valvâ inferiori ad marginem superiorem superanti, foliaceo margine subcæruleo, angulatimundato. Margine dorsali utriusque valvæ ad latera, propè cardinem rectè striato.*

THE NOBLE OSTRÆA. Shell large, ponderous, compressed, discoidal, subequilateral, suborbicular, expanded above, whitish near the umboes, thence to the margin ashy-purple, rayed with large diverging, somewhat vaulted smooth plaits; lower valve exceeding the upper at the margin, foliaceous, margin bluish, angularly waved; dorsal margin of each valve near the hinge at the sides, straightly striated.

SOWERBY.

Hab. Barclay Island, Mauritius.

Another of the rare products of the above wonderful little islet

Species 82. (Mus. Barclay.)

OSTRÆA INÆQUIVALVIS. *Ost. testâ irregulâri, subsolidâ, rugosâ, valdè inæquilaterali, subtrigonâ, extùs sordidè albâ, intùs purpureo maculato, ad margines strigato, valvâ inferiori ad marginem superiorem superanti, tenuiter expansâ et extanti, extùs subcostatâ, cardine trigono, producto; cicatrice laterali, nigrescenti vel castaneâ; valvâ superiori compressâ, subplanulatâ.*

THE INEQUIVALVE OSTRÆA. Shell irregular, rather solid, rough, very inequilateral, subtrigonal, outwardly dirty white, within spotted with purple and striped at the margin, lower valve extending beyond the upper, thinly expanded and standing up, externally slightly ribbed; hinge trigonal, produced; scar lateral, blackish or chestnut; upper valve compressed, a little flattened.

SOWERBY.

Hab. Madagascar. Mauritius.

The specimen with the lighter internal colour is from Madagascar. The darker one is from the Mauritius. In the two specimens the apex turns in opposite directions.

November, 1871.

83 a

83 b

84

85

86 a

86 b

87

Sowerby del. et lith.

Vincent Brooks Day & Son, Imp.

OSTRÆA.

PLATE XXXIII.

Species 83. (Fig. *a*; *b*, Mus, Hanley.)

OSTRÆA ARAKANENSIS. *Ost. testâ compressâ, subtrigonâ, versùs cardinem attenuatâ, pallidè fulvâ, ad apicem purpureâ, ad latera purpureo strigatâ, tuberculis parvis leviter rugatâ; valvâ superiori ad latera versùs cardinem denticulatâ, medio albâ subviridi-fusco circulariter nebulato; apice subspirali, retrorso.*

THE ARAKAN OSTRÆA. Shell compressed, subtrigonal, attenuated towards the hinge, pale fulvous, purple at the apex, striped with purple at the sides, slightly roughened with small tubercles, upper valve denticulated at the sides towards the hinge, middle white circularly clouded with greenish brown; apex subspiral, turning backwards.

SOWERBY.

Hab. Arakan.

The curious circular clouding observable in the larger specimen of the upper valve may possibly be the result of some peculiar condition. The apex is very peculiar, showing externally a strong spiral turn, and ending within in a point at the posterior terminus of the hinge.

Species 84. (Mus. Hanley.)

OSTRÆA OBESA. *Ost. testâ suborbiculari, crassâ, pallidè fulvâ, nigro-purpurascenti latè biradiatâ, squamosâ, subspiraliter rugosâ, arcuatâ, tumidâ, margine plicato; intùs inæqualiter subviridi, cicatrice majusculâ, subreniformi; cardine parvo, margine intùs prope umbones utrinque crenulato.*

THE OBESE OSTRÆA. Shell suborbicular, thick, pale fulvous, widely biradiated with purplish black, squamose, rugose, arched, tumid, plicated at the edge; unequally greenish within; scar rather large, rather reniform; hinge small, margin within crenulated on both sides near the umboes.

SOWERBY.

Hab. ——?

The group in the collection of Mr. Hanley consists of two specimens attached to each other. The upper specimen is evidently the younger of the two, and has not begun to exhibit plications on the margin.

Species 85. (Mus. Hanley.)

OSTRÆA NIGROMARGINATA. *Ost. testâ valvâ superiori compressâ, subquadratâ, nigrescenti, undato-squamosâ, intùs albâ, margine latissimo nigro; cardine subobliquo; marginibus lateralibus utrinque prope cardinem, denticulis rotundis subdistantibus parvis armatis; valvâ inferiori ignotâ.*

THE BLACK-BORDERED OSTRÆA. Shell with upper valve compressed, subquadrate, blackish, undato-squamose, white within, with a very wide black margin; hinge rather oblique, lateral margins armed on each side near the hinge with rounded, rather distant, small teeth; lower valve unknown.

SOWERBY.

Hab. Arakan.

The large single valve figured is the only specimen known, and as it exhibits none of the peculiarities of the species which I have named *Ost. Arakanensis*, with which it is locally associated, it appears worth a provisional designation.

Species 86. (Mus. Taylor.)

OSTRÆA DUBIA. *Ost. testâ suborbiculari, tenui, subcompressâ, fusco-purpurascenti, vel castaneâ, lineis nigrescentibus irregularibus sparsim radiatâ, versùs umbones tenuiter tuberculatâ, versùs margines undato-plicatâ, cardine parvo, valvâ inferiori lobis testaceis armatis.*

THE DUBIOUS OSTRÆA. Shell suborbicular, thin, slightly compressed, purplish or chestnut-brown, sparsely rayed with irregular blackish lines; hinge small, lower valve armed with testaceous lobes.

SOWERBY.

Hab. Island of Formosa?

The orbicular form, the tuberculated surface near the umboes, and the dark linear rays distinguish this species from *Ostræa folium*, which it otherwise nearly resembles.

Species 87. (Mus. Prevost.)

OSTRÆA PREVOSTII. *Ost. testâ solidâ, rugosâ, transversè oblongâ, arcuatâ, subcompressâ, intùs versus marginem viridi; valvâ superiori versus marginem viridi, purpureo strigatâ, margine ventrali convexo, plicis majusculis angulatis, imbricatis, ad terminum maximis undato, margine dorsali concavo, crenato; valvâ inferiori albidâ, medio-angulatim tumido, plicis utrinque divaricatis acutè angulatis.*

PREVOST'S OSTRÆA. Shell solid, rough, transversely oblong, arched, slightly compressed, greenish within towards the margin; upper valve green towards the margin striped with purple, ventral margin convex, undulated with rather large angular, imbricated plaits, very large at the end; lower valve whitish, angularly tumid in the middle, with divergent, acutely angular plaits on each side.

SOWERBY.

Hab. —— ?

Interesting as a second example of the peculiar form represented by *Ostræa megodon*, a form otherwise known only as a fossil. The specimen is in the collection of Dr. Prevost.

OSTRÆA.

	Plate.	Species.
æquatorialis, D'Orb.	XVIII.	39
affinis, *Sowerby*	XXIX.	75
Algoensis, *Sowerby*	XXVI.	65
Angasii, *Sowerby*	XIII.	27
angulata, *Lamarck*	VIII.	12
Arakanensis, *Sowerby*	XXXIII.	83
arborea, Chem. (parasitica)	II.	4
attenuata, *Sowerby*	XXI.	49
auriculata, *Sowerby*	XXV.	60
Australis, Lamarck	XII.	25
Bardayana, *Sowerby*	XXX.	77
Belcheri, *Sowerby*	VII.	11
bicolor, *Hanley*	XXIII.	53
Borealis, Gould	VI.	9
callochroa, *Hanley*	IV.	6
Canadensis, Lamarck	VI.	9
cerata, *Sowerby*	XXVIII.	71
circumsuta, *Gould*	XX.	64
Chemnitzii, *Hanley*	XX.	47
Chiloensis, Ms. B. M.	XV.	33
cochlear, *Poli*	XX.	44
Columbiensis, *Hanley*	VII.	10
conchaphila, *Carpenter*	XXVIII.	69
cornucopia, Chemn.	XVI.	34
crenulifera, *Sowerby*	XXVII.	67
crassa, Chem. (rostralis)	X.	20
crista-galli, *Linnæus*	XI.	22
cucullina, *Deshayes*	II., XXXI.	2
cucullata, *Born.*	XVI.	34
cymbæformis, *Sowerby*	XXIX.	73
Cyrnusii, *Payradan*	XVII.	37
denticulata, *Born*	IX.	14
depressa, *Philippi*	XXIII.	55
discoidea, *Gould*	XIII.	26
doridella, Lamarck (frons)	XIX.	41
dubia, *Sowerby*	XXXIII.	86
edulis, *Linnæus*	V.	8
erucella, Lamk. (frons)	XIX.	41
exalbida, Gmel. edulis, *Young ?*	V.	8
Floridensis, *Sowerby*	XXIX.	76
folium, *Gmel.*	XVIII.	40
Forskali, Chem.	XVI.	34
frons, *Linnæus*	XIX.	41
fusca, Lamk. (sinensis)	III.	5
gallina, Lamk. (Rhizophora)	IX.	17
gallus, Valenciennes	XII.	24
glomerata, *Gould*	XXII.	52
Guineensis, *Dunker*	XXVI.	62

	Plate.	Species.
hippopus, Lamarck	V.	8
hyotis, *Linnæus*	IV.	7
imbricata, *Lamk.*	XVII.	36
inæquivalvis, *Sowerby*	XXXII.	82
inermis, *Sowerby*	XXVIII.	70
iridescens, Gray	I.	1
Italica, Desh. (cochlear)	XX.	44
labrella, Lamk.	XVIII.	40
lacerans, *Hanley*	XXII.	51
lactea, *Sowerby*	XXI.	48
lamellosa, *Brochi*	XXIII.	54
lentiginosa, *Sowerby*	XXIV.	58
lima, *Sowerby*	XX.	45
limacella, Lamk. (frons)	XIX.	41
lugubris, *Sowerby*	XXVI.	63
lurida, *Carpenter*	IX.	15
megodon, *Hanley*	XII.	24
Mexicana, *Sowerby*	XVI.	35
mordax, *Gould*	XV.	31
multicostata, *Sowerby*	XXV.	61
multiradiata, *Sowerby*	XXV.	59
multistriata	XXIX.	74
mytiloides, *Lamarck*	II.	3
nigromarginata, *Sowerby*	XXXIII.	85
nobilis, *Sowerby*	XXXII.	81
obesa, *Sowerby*	XXXIII.	84
ochracea, *Sowerby*	X.	19
palmipes, *Sowerby*	XXIV.	56
parasitica, Turton	V.	8
parasitica, *Gmelin*	II., XIII.	4
pes-tigris, *Hanley*	XXX.	78
permollis, *Sowerby*	X.	18
plicata, *Chemnitz*	XXVII.	68
plicatula, *Gmelin*	XXVII.	68
præadamitica, Bolton	III.	5
Prevostii, *Sowerby*	XXXIII.	87
prismatica, *Gray*	I.	1
puelchana, D'Orb.	II., XIII.	4
pyxidata *Adams.*	IX.	16
quercina, *Sowerby*	XIX.	43
radix, *Sowerby*	XV.	30
reniformis, *Sowerby*	XXIV.	57
retusa, *Pease*	XIX.	42
rhizophoræ, *Guilding*	IX.	17
rosacea, *Chem.*	XX.	46
rostralis, *Lamarck*	X.	20
rostrata, *Chemnitz*	VI.	9
rufa, *Lamarck*	XII.	25

	Plate.	Species.
rubella, Lam. (frons)	XIX.	41
Sandvichensis, *Sowerby*	XXVII.	66
Hanleyana, *Sowerby*	XXVIII.	72
Sinensis, *Gmelin*	III.	5
solida, *Sowerby*	XIV.	28
spathulata, *Lamarck*.....	VIII.	13
spinosa, *Quoy*	XXX.	79
spreta, *D'Orb.*	XV.	32
subtrigona, *Sowerby*.....	XVIII.	38
Talienwahensis, *Crasse*	X.	21
tenuiplicata, *Sowerby*	XXVIII.	71
tubercularis, *Lamarck*	XXI.	50
tuberculata, Lamarck	XII.	25
tulipa, *Lamarck*	XVIII.	39
turbinata, *Lamarck*	XIV.	29
virescens, *Angas*	XI.	23
Virginica, Lamarck	VI.	9
Virginiana, Gmelin	VI.	9
vitrefacta, *Sowerby*	XXXI.	80

Species not identified.

Adriatica, lingua, Ruscuriana, excavata, sinuata, trapezina, gibbosa, margaritacea, elliptica, radiata, Braziliana, Australis, fucorum, haliotoidea, numisma, rufa, scabra, glaucina, *Lamarck.*—stellata, Senegalensis, *Gmelin.*—taurica, *Kryn.*—cristata, *Born.*—crocea, dentifera, *Dufo.*—uncinata, raricosta, *Deshayes.*—Webii, *Recluz.*—cognata, orientalis, *Chemnitz.*—laticordia, *Nuttall.*—semicylindrica, *Say.*—stentina, *Payraudeau.*

ERRATUM.

Ostræa lactea is not in the collection of Mr. Taylor, but of Mr. Harford.

MONOGRAPH

OF THE GENUS

LINTERIA.

"O all ye works of the Lord bless ye the Lord; praise Him and magnify Him for ever."

Song of the Three Children.

1.

2. a.

2. b.

3. a.

4. a.

4. b.

3. b.

5. a.

5. b.

6.

LINTERIA.

Genus LINTERIA, *Adams.*

Testa ovata, depressa, laxè convoluta ; aperturâ latissimâ, anticè subcanaliculatâ, margine labii interni appendiculo calyciformi, intùs spirali.

Shell ovate, depressed, loosely convolute; aperture very wide, partly canaliculated in front, margin of the inner lip with a calyciform, inly spiral appendage.

The most remarkable of all the generic forms of the family of Bullidæ, *Linteria* is distinguished by the curious projecting cup conspicuous on the inner edge of the body whorl. Of the six species enumerated the localities are wide apart, although chiefly southern; New Ireland, the Philippines, the Sandwich Islands, Algiers, and Japan contributing.

Species 1. (Mus. Cum. in Brit.)

LINTERIA MINOR. *Lin. testâ parvulâ, luteâ, pellucidâ, tenui, obliquè ovatâ, longitudinaliter tenuissimè striatâ, appendiculo unguiculato.*

THE SMALLER LINTERIA. Shell small, yellow, pellucid, thin, obliquely ovate, longitudinally very finely striated, appendage unguiculate.

A. ADAMS. In Sowerby's Thesaurus Conchyliorum, Bulla, No. 127.

Hab. Island of Zebu,—H. Cuming.

This small transparent shell is more oblique in form than the other species.

Species 2. (Fig. *a*, *b*, Mus. Cum. in Brit.)

LINTERIA ACUMINATA. *Lin. testâ ovatâ, posticè contracto, extus viridi, intùs subfuscâ, labio externo supra spinam elevato, rotundatim acuminato, deinde contracto, anticè obliquè expanso ; anfractu ultimo subtrigono ; appendiculo subexpanso.*

THE ACUMINATED LINTERIA. Shell ovate, posteriorly contracted, green without, brownish within, outer lip elevated above the spire, roundly acuminated, thence contracted, anteriorly obliquely expanded; last whorl subtrigonal; appendage somewhat expanded.

SOWERBY.

Hab. Guadaloupe. Sandwich Islands.

The specimens from which I name this species are one from Guadaloupe and the other from the Sandwich Islands. They differ from *Linteria viridis* in the outer lip being acuminated, raised above the spire, and confluent with the reflected inner lip on the body whorl.

Species 3. (Fig. *a*, *b*, Mus. Cum. in Brit.)

LINTERIA VIRIDIS. *Lin. testâ subæqualiter ovatâ, solidâ, ventricosâ, latè apertâ, concentricè spiraliter tenuissimè striatâ, viridi, labio externo posticè subtruncato, medio semicirculari, columellâ valdè arcuatâ, anfractu ultimo angustissimo, appendiculo albo, magno, declivi.*

THE GREEN LINTERIA. Shell rather equally ovate, solid, ventricose, widely open, concentrically spirally very thinly striated, green, outer lip posteriorly subtruncated, semicircular in the middle; columella much arched, last whorl very narrow, appendage white, large, sloped.

RANG. Quoy and Gaimard, Voy. de l'Astrolabe, pl. xxvi. f. 13-16.

Hab. Bourbon, Guam, Japan, Pitcairn's Island. Taken on exposed rocks at half tide.

The cup-like appendage of the columella in this species is larger than in any other, and the form is more regularly oval.

Species 4. (Fig. *a*, *b*, Mus. Cum. in Brit.)

LINTERIA GLAUCA. *Lin. testâ ovato-subquadratâ, oblongâ, subpellucidâ, glaucâ, compressâ, concentricè striatâ ; aperturâ rectiusculâ, anticè subtruncatâ, posticè margine elevato et inflexo ; anfractu ultimo angustissimo, columellâ rectiusculâ ; appendiculo elongato, acuminato.*

THE GLAUCOUS LINTERIA. Shell ovately-subquadrate, subpellucid, glaucous, compressed, concentrically striated; aperture rather straight, anteriorly subtruncated, posteriorly with the margin elevated and bent inwards; last whorl very narrow, colu-

mella rather straight; appendage elongated, acuminated.

Quoy. Voy. de l'Astrolabe, pl. xxi. f. 10-12.

Hab. New Ireland.

This species is more oblong-ovate and compressed than *Linteria viridis*.

Species 5. (Fig. *a*, *b*, Mus. Brit.)

Linteria fasciata. *Lin. testâ oblongâ, subovatâ, compressâ, semipellucidâ, fusco-aureâ, spiraliter trifasciatâ, supra medium subcontractâ; aperturâ magnâ, labio externo elevato, cuneato; anfractu ultimo angustissimo; appendiculo elongato, acuminato.*

The banded Linteria. Shell oblong, subovate, compressed, semipellucid, golden brown, spirally three-banded, slightly contracted above the centre; aperture large, outer lip elevated, cuneate; last whorl very narrow; appendage long, acuminated.

Sowerby.

Hab. ——?

The locality of the specimen in the British Museum is not indicated.

Species 6. (Mus. Hanley.)

Linteria Algiræ. *Lin. testâ subtrigonâ, albâ, tenui, concentricè leviter undatâ; aperturâ maximâ, trigonâ, labio externo supra spinam elevato, angulato, acuminato, medio contracto, anticè producto; columellâ valdè arcuatâ, anfractu ultimo parvo, trigono; appendiculo parvo, acuminato.*

The Algerian Linteria. Shell subtrigonal, white, thin, concentrically lightly undulated; aperture very large, trigonal, outer lip elevated above the spine, angulated, acuminated, contracted in the middle, anteriorly produced; columella much arched, last whorl small, trigonal; appendage small, acuminated.

Hanley. Sowerby's Thesaurus Conchyliorum, Bulla No. 128.

Hab. Algiers. Dredged by R. MacAndrew, Esq.

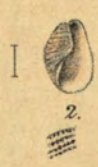
MONOGRAPH

OF THE GENUS

SCAPHANDER.

"All things that are forked, and horned, and soft,
Would lean out from the hollow sphere of the sea."—*Tennyson.*

1.



2.

3.

4.a.

5. a.

5. b.

4. b.

6.

7.

8.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

SCAPHANDER.

Genus SCAPHANDER, *Montfort.*

Testa spiraliter convoluta, ovato-subtrigona; spira ovata, sub-occulta; apertura ampla, anfractu penultimo longior, anticè valdè expansa, posticè coarctata; labium externum acutum; margo columellaris reflexa, anticè valde arcuata.

Shell spirally convolute, ovately subtrigonal; spine partly hidden; aperture wide, longer than the penultimate whorl, anteriorly much expanded, posteriorly narrowed; outer lip sharp; columellar margin reflected, strongly arched anteriorly.

The well known *Scaphander lignarius* is the type of this genus, which differs from other genera of *Bullidæ* not so much in the form of the shell, although that is peculiar, as in the character of the animal, which is very distinct. Of the eight species here enumerated, two are American, one Mediterranean, and five British and Scandinavian.

Species 1. (Mus. Jeffreys.)

SCAPHANDER ZONATUS. *Sca. testâ solidâ, pallidè stramineâ, ovato-subpyriformi, spiraliter lineis distantibus excavatis punctatis sculptâ; spirâ obtusâ umbilicatâ.*

THE BANDED SCAPHANDER. Shell solid, pale straw-coloured, ovate, subpyriform, spirally sculptured with distant excavated punctured lines; spire obtuse, umbilicated.

TURTON (Bulla). British shells.

Hab. Zetland.

Shorter and more ovate than *Scaphander lignarius*, not so much so as *Sca. librarius*. Sculptured with punctured lines and umbilicated at the apex.

Species 2. (Mus. Cuming in Brit.)

SCAPHANDER PUNCTO-STRIATUS. *Sca. testâ albâ, solidâ, ovatâ, spiraliter puncto-striatâ; spirâ cœlatâ; aperturâ magnâ, posticè angustatâ, supra spiram elevata, margine columellari subarcuato.*

THE PUNCTO-STRIATED SCAPHANDER. Shell white, solid, ovate, spirally puncto-striated; spire concealed, aperture large, narrowed posteriorly, elevated above the spire, columellar margin a little arched.

MIGHELS. Boston Journal of Natural History, vol. v. p. 43, pl. f. 10.

Hab. Casco Bay, Massachusetts.

Species 3. (Mus. Cuming in Brit.)

SCAPHANDER LINEOLATUS. *Sca. testâ parvâ, angustâ, ferrugineâ, spiraliter minutè et obliquè striatâ; spirâ prominulâ, angustâ, obtusâ; aperturâ magnâ, posticè angustâ, infrà spiram depressâ; margine columellari vix arcuato.*

THE FINE-LINED SCAPHANDER. Shell small, narrow, ferruginous, spirally minutely and obliquely striated; spire rather prominent, narrow, obtuse; aperture large, posteriorly narrow, depressed below the spire; columellar margin very slightly arched.

COUTHOY. Boston Journal of Natural History, vol. ii. p. 179.

Hab. Massachusetts Bay.

Species 4. (Fig. *a*, *b*, Mus. Sowerby.)

SCAPHANDER LIGNARIUS. *Sca. testâ solidâ, pyriformi, versùs spiram attenuata, spiraliter striatâ, extùs ferrugineo fasciatâ; spirâ depressâ sub-umbilicatâ; aperturâ magnâ, posticè suprà spiram elevatâ obliquè subquadratâ; margine columellarià valdè arcuatâ.*

THE WOOD SCAPHANDER. Shell solid, pyriform, attenuated towards the spire, spirally striated, ferruginous, banded outside; spire depressed, subumbilicated, aperture large, posteriorly elevated above the spire, obliquely quadrate; columellar margin much arched.

LINNÆUS. Systema Naturæ.

Hab. British Coasts. Mediterranean. Scandinavia.

Species 5. (Fig. *a*, *b*, Mus. Jeffreys.)

SCAPHANDER LIBRARIUS. *Sca. testâ solidâ, ovatâ, ventricosâ, ferrugineâ, striatâ; aperturâ subovatâ; labio externo subincrassato, suprà spiram acuminatim elevato; margine columellari subincrassato, reflexo, anticè arcuato; spirâ umbilicatâ.*

THE SCALE SCAPHANDER. Shell solid, ovate, ventricose, ferruginous, striated; aperture subovate; outer lip somewhat thickened, acuminately elevated above the spire; columellar margin rather thickened, reflected, anteriorly arched; spire umbilicated.

LOVEN. —— ?

Hab. North Britain and Norway.

Species 6. (Mus. Cum. in Brit.)

SCAPHANDER SCABRA. *Sca. testâ oblongâ subpyriformi, posticè attenuatâ, albâ, lineis spiralibus cateniformibus sculptâ; aperturâ posticè coarctatâ, anticè dilatatâ; labio externo anticè pectinato.*

THE SCABROUS SCAPHANDER. Shell oblong, subpyriform, posteriorly attenuated, white, sculptured with spiral chain-like lines; aperture posteriorly contracted, anteriorly dilated; outer lip anteriorly pectinated.

MULLER. Zoologica Danica, vol. ii. p. 41.

Hab. Britain. Denmark.

Species 7. (Copied.)

SCAPHANDER VESTITA. *Sca. testâ angustâ, oblongâ, posticè attenuatâ, fuscâ; striis spiralibus nullis, reticulo albo obtectâ; spirâ angustâ, cœlatâ, umbilicatâ.*

THE INVESTED SCAPHANDER. Shell narrow, oblong, posteriorly attenuated, brown; without spiral striæ, covered with a white reticulation; spire narrow, concealed, umbilicated.

PHILIPPI. Enumeratio Molluscorum Siciliæ.

Hab. Sicily.

The white network with which this shell is described as being covered is probably an extraneous growth, but the form is peculiar, and there are not the usual spiral striæ.

Species 8. (Mus. Jeffreys.)

SCAPHANDER GIBBUS. *Sca. testâ ovatâ-oblongâ, ventricosâ, utrinque acuminatâ, nitidissima, hyalina, suprà et infrà spiraliter sulcatâ; apice truncato, umbilicato; margine incrassato; aperturâ medio angustissimâ, posticè patulâ, angulatâ, anticè subcaniculatâ; columellâ arcuatâ, uniplicatâ.*

THE GIBBOUS SCAPHANDER. Shell ovate-oblong ventricose, acuminated at each end, very smooth, hyaline, spirally sulcated above and below; apex truncated, umbilicated; margin thickened; aperture very narrow in the middle, patulate, angular behind, subcanaliculated in front; columella arched, uniplicate.

JEFFREYS. Marine Testacea of Piedmontese Coast. An. and Mag. Nat. Hist. 1856, p. 188.

Hab. Bay of Spezia.

I am not fully acquainted with the grounds upon which it is judged right to place this species in the present genus, but I am assured that the animal is a true Scaphander.

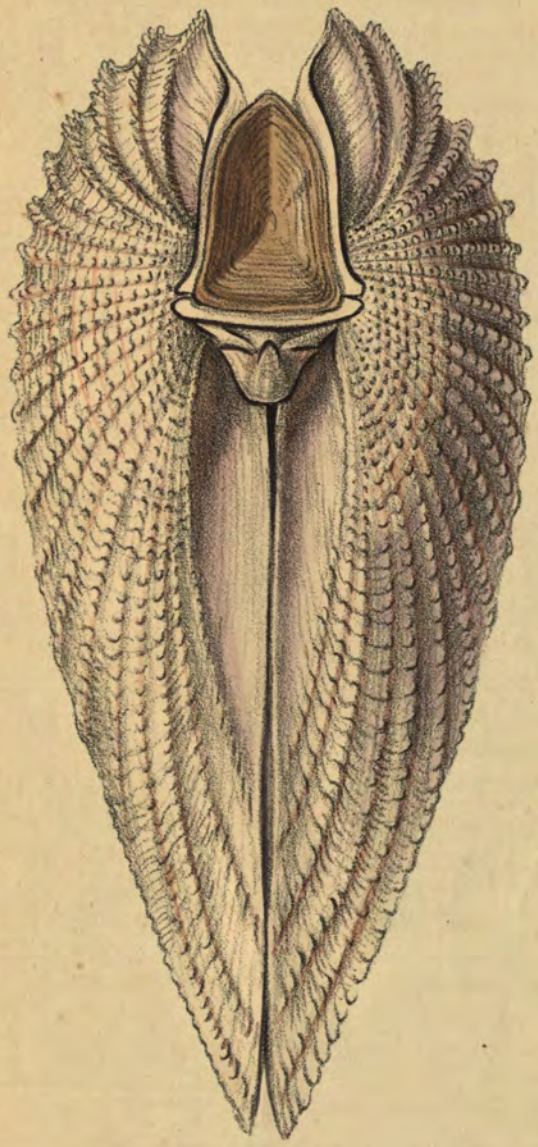
MONOGRAPH

OF THE GENUS

PHOLAS.

"Man may read
The Maker's hand, intelligence supreme,
Unbounded power, on all His works impress."—*Milton.*

1.



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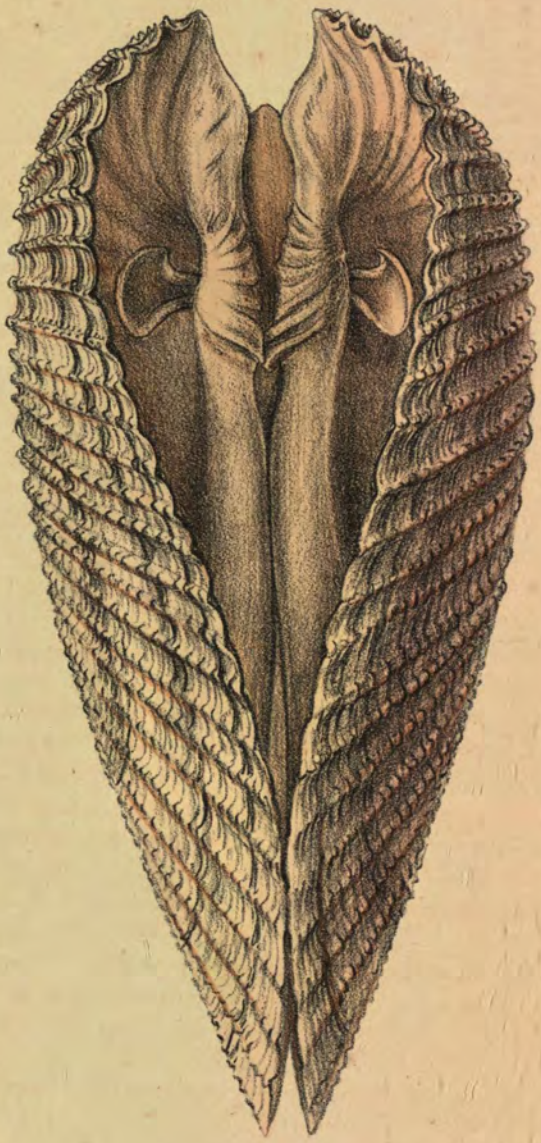


2. b.

3.

Sowerby, del et lith.

Vincent Brooks, Day & Son, Imp.

PHOLAS.

PLATE I.

Genus PHOLAS, *Linnæus.*

Testâ mollusci acephali terebrantis bivalvis, bimusculosâ, plerumque subcylindraceâ, posticè attenuatâ, valvis anticè hiantibus, vel integumenti clausis, margine dorsali laminis testaceis accessoribus unâ vel pluribus tectis; intùs infrà umbones utrâque valvâ processu arcuato sub umbone affixo.

Shell of an acephalous boring mollusc bivalve, bimuscular, generally subcylindrical, attenuated posteriorly; valves gaping in front or closed with an integument; dorsal margin covered by one or more accessory shelly plates; an arched process fixed to each valve within under the umbees.

The *Pholadæ* have been usually divided according to the number of accessory plates, or the shape and disposition of the terminal integuments. Whatever may be the merits of such division, in this monograph the various forms will be united under one generic term. It is curious, however, to observe how the species pass from the simplest form as represented by such species as *Pholas parva*, in which the hiatus in the valves is left open with a single dorsal plate, through those which have a complicated arrangement of plates, to those which, like *Pholas calva*, are closed at one end by a shelly covering over the whole anterior, and at the other end by marginal integuments. Then come those which, like *Pholadidea papyracea*, have a cup or pair of flaps at the end of these integuments, followed by those which, like *Pholas tubifera* and *tridens*, have a shelly tube at the end of the cup. The prevailing opinion respecting the manner of boring among the *Pholadæ*, is that the sucker foot holding to the stone, wood, or wax to be bored, and forming a pivot on which the shells rotate, the substance is bored by the rasping power of the sharp points or prickles of the shell. I should ascribe only a part of the work to this process, as assisting other agencies. Other bivalve mollusca bore which have no such rasping prickles on their shells. The *Pholadæ* are found in most parts of the world, and the species are very widely spread, especially those which, like *Pholas striata*, bore in wood, and being transported by ships and other floating timber become cosmopolitan.

Species 1. (Mus. Jeffreys, &c.)

PHOLAS CANDIDA. *Pho. testâ subventricosâ, tenui, anticè rotundatâ, medio ventricosâ, costis acutè imbricatis radiatâ, posticè attenuatâ, acuminatâ, lævigatâ; laminâ dorsali unâ, angustâ, simplici.*

THE WHITE PHOLAS. Shell subventricose, thin, rounded in front, ventricose in the middle, rayed with sharply imbricated ribs, posteriorly attenuated acuminated, narrow, simple.

LINNÆUS. Systema Naturæ.

Hab. Great Britain. Burrowing in chalk.

Differing from *Pholas parva* and others of the single-plated group in the roundness of the anterior termination of the valves.

Species 2. (Mus. Brit.)

PHOLAS COSTATA. *Pho. testâ magnâ, apertâ, elongatâ, ventricosâ; costis validis subrotundatis imbricatis omnino radiatâ; laminâ dorsali triangulari, corneâ.*

THE RIBBED PHOLAS. Shell large, open, elongated, ventricose, rayed with strong, rather rounded imbricated ribs; dorsal lamina triangular, horny.

LINNÆUS. Systema Naturæ.

Hab. Mexico and United States.

This very handsome species has no shelly dorsal plate, but a thin horny triangular integument spread on a platform, formed by the reflected margins of the valves.

Species 3. (Fig. *a*, *b*, Mus. Jeffreys, &c.)

Pholas parva. *Pho. testâ breviùsculâ, subcuneatâ, anticè latâ, acuminatâ, latè hianti, costis numerosis creberrimè imbricatis radiatâ; medio depressâ, posticè subattenuatâ, læviùsculâ, laminâ dorsali unicâ, angustâ, nucleo posticè terminali.*

The small Pholas. Shell rather short, rather wedge-shaped, anteriorly wide, acuminated, widely gaping, rayed with numerous closely imbricated ribs, depressed in the middle, posteriorly subattenuated, rather smooth, dorsal plate single, narrow, nucleus posteriorly terminal.

Pennant. British Zoology.

Hab. Great Britain.

Found in the red rock in company with *Pholas papyracea*.

5.a.

4.a.

5.b.

6.a.

4.b.

6.b.

Sowerby, del et Lith.

Vincent Brooks, Day & Son Imp.

PHOLAS.

PLATE II.

Species 4. (Fig. *a*, *b*, Mus. Jeffreys.)

PHOLAS DACTYLUS. *Pho. testâ anticè apertâ, rostratâ, elongatâ, posticè subattenuatâ; costis angulatis, acutissimè spinis imbricatis, medio et versùs extremitatem posticum evanidis; margine dorsali anticè reflexo, fulcro concamerato duplicato; valvulis dorsalibus anticis duabus, nucleis postico-lateralibus; unâ posticâ elongatâ angustâ.*

THE DATE PHOLAS. Shell anteriorly open, rostrated, elongated, posteriorly subattenuated; ribs angular, very acutely imbricated with spines, disappearing towards the middle and posterior extremity; dorsal margin reflected in front, doubled by a chambered fulcrum; dorsal valves two anterior, with postero-lateral nuclei; one posterior, elongated, narrow.

LINNÆUS. Systema Naturæ.

Hab. Various parts of Great Britain, in sandstone.

Species 5. (Fig. *a*, *b*, Mus. Brit.)

PHOLAS ORIENTALIS. *Pho. testâ anticè apertâ, rotundâ, costis subrotundis, imbricatis, crebris dimidiatim armatâ, posticè lævigatâ attenuatâ, acuminatâ; valvulis dorsalibus unâ anticâ, latâ, nucleo subanticè, unâ posticâ elongatâ angustissimâ.*

THE ORIENTAL PHOLAS. Shell anteriorly open, rounded, armed halfway with rather rounded, imbricated, numerous ribs, posteriorly smooth, attenuated, acuminated; dorsal valves one anterior, broad, with subanterior nucleus, one posterior elongated, very narrow.

GMELIN. No. 3216.

Species 6. (Fig. *a*, *b*, Mus. Brit.)

PHOLAS CHILOENSIS. *Pho. testâ subcylindricâ, elongatâ, anticè apertâ, rotundatâ; omnino costis rotundis subdistantibus, obtusè intricatis, posticè subobsoletis, radiatâ; valvulis dorsalibus duabus anticis, latis, nucleis antecentralibus approximatis; unâ posticâ parvâ transversâ; alterâ posticâ elongatâ angustâ.*

THE CHILOEAN PHOLAS. Shell subcylindrical, elongated, anteriorly open, rounded; rayed all over with rounded, rather distant, obtusely imbricated, posteriorly subobsolete ribs; dorsal valves two anterior, wide, with ante-central approximated nuclei; one posterior, small, transverse; another posterior elongated, narrow.

KING. Zoological Journal, vol. v. p. 334.

Hab. Chiloe. H. Cuming.

Pholas Campechensis. Gmelin.

The two accessory valves covering the umboes have their nuclei elevated and close to each other, while in those of *Pholas dactylus* they are depressed, posterior, and on the outer edges.

March, 1872.

8.a.

7.a.

8.b.

9.

10.

11.

7.b.

PHOLAS.

PLATE III.

Species 7. (Fig. *a*, *b*, Mus. Cum. in Brit.)

PHOLAS CONSTRICTA. *Pho. testâ breviusculâ, anticè rostratâ, utrinque latè apertâ; in medio post sulcum foveolatum obliquè divisâ et constrictâ; anticè ventricosâ, radiatim scabrosâ, posticè angustâ, minutè concentricè striatâ; margine dorsali super umbones reflexo.*

THE CONSTRICTED PHOLAS. Shell rather short, anteriorly rostrated on both sides, widely open in the middle, behind a pitted groove obliquely divided and constricted; ventricose in front, radiately scabrous, narrow behind, minutely concentrically striated; dorsal margin reflected over the umboes.

SOWERBY. Proc. Zool. Soc., 1849.

Hab. Straits of Sunda.

Like *Pholas parva* in form, but more strongly tightened in the middle and destitute of a dorsal plate.

Species 8. (Fig. *a*, *b*, Mus. Cum. in Brit.)

PHOLAS FRAGILIS. *Pho. testâ elongatâ, angustâ, anticè apertâ, acutè rostratâ, costellis acutè imbricatis anticè posticèque radiatâ; haud medio constrictâ, margine dorsali reflexo, valvulâ dorsali unicâ super umbones locatâ.*

THE FRAGILE PHOLAS. Shell elongated, narrow, open in front, acutely beaked, rayed with acutely imbricated little ribs; not constricted in the middle; dorsal margin reflexed, a single dorsal valve placed upon the umboes.

SOWERBY. Proc. Zool. Soc., 1848, p. 10.

Hab. Bassy, Island of Samar, Philippines, in soft stone at low water. H. Cuming.

Very narrow and fragile, and not, like *Pholas parva*, narrow in the middle. The beaked part in front of the umboes is much smaller.

Species 9. (Mus. Brit.)

PHOLAS CRISPATA. *Pho. testâ latâ, medio per sulcum foveolatum divisâ, anticè latè apertâ, rostratâ, trigonâ costis acutissimè imbricatis radiatâ, margine dorsali reflexo, ventrali acutè laqueato; posticè lævigato, brevi, subrotundato; valvulâ dorsali nullâ.*

THE CRISP PHOLAS. Shell wide, separated in the middle by a pitted groove, anteriorly widely open, beaked, trigonal, rayed with very acutely imbricated ribs; posteriorly smooth, short, rather rounded; no dorsal valve.

LINNÆUS. Systema Naturæ.

Hab. Great Britain.

In this broad and short well-known species, the tubes of the mollusc are protected by an external epidermidous case.

Species 10. (Mus. Brit.)

PHOLAS SIMILIS. *Pho. testâ latiusculâ, fragili, ventricosâ, anticè latissimè apertâ, acutissimè rostratâ, costis acutissimè imbricatis subdistantibus radiatâ, margine hianti spinifero; medio et posticè concentricè rugatâ, vix radiatâ; valvulâ dorsali unicâ, super umbones locatâ nucleo posticè terminali.*

THE SIMILAR PHOLAS. Shell rather broad, fragile, anteriorly widely open, very sharply beaked, rayed with very sharply imbricated rather distant ribs, gaping margin spiniferous; in the middle and posteriorly concentrically ridged, scarcely rayed; dorsal valve single, placed upon the umboes with terminal nucleus.

GRAY. MS.

Hab. New Zealand. *Earle.*

More ventricose than *Pholas parva*, and narrowed in the middle.

Species 11. (Mus. Brit.)

Pholas Australasiæ. *Pho. testâ elongatâ, subcylindricâ, anticè brevi, rotundo-subacuminatâ, apertâ, acutè costatâ, posticè productâ, medio posticèque costellis vix elevatis imbricatis radiatâ; margine dorsali reflexo; valvulis dorsalibus ignotis.*

The Australian Pholas. Shell elongated, subcylindrical, anteriorly short, roundly-subacuminated, open, acutely ribbed, posteriorly produced in the middle, and posteriorly rayed with scarcely raised imbricated ribs; dorsal margin reflected; dorsal valves unknown.

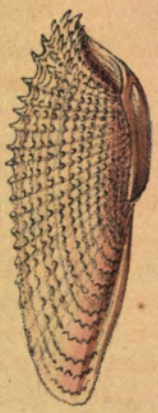
Gray. MS.

Hab. Australia.

In the monograph by Sowerby in "Thesaurus Conchylium" the comparison is made with *Pholas Candida*. I now think it should have been with *Pholas Chiloensis*, but I have not seen the dorsal valves.

12.

13.a.



13. b.

14

15.a.

15.b.

15. c.

Sowerby, del.et lith.

Vincent Brooks Day & Son, Imp.

PHOLAS.

PLATE IV.

Species 12. (Mus. ——?)

PHOLAS DARWINII. *Pho. testâ parvâ, fuscâ, brevi, anticè latissimè apertâ, radiatim scabrâ, in medio per sulcum foveolatum divisâ, post sulcum concentricè rugatâ, margine latè recurvo; valvulâ dorsali nullâ.*

DARWIN'S PHOLAS. Shell small, brown, short, anteriorly very widely gaping, radiately scabrous, divided in the centre by a pitted sulcus; behind the sulcus concentrically ridged, with the margin widely recurved; no dorsal valve.

SOWERBY. Proc. Zool. Soc., 1849.

Hab. Chiloe. *Ch. Darwin.*

A curious little species, which might be likened to the young of *Pholas papyracea*, with the margins broadly reflected and recurved.

Species 13. (Fig. *a*, *b*. Mus. Brit.)

PHOLAS LAQUEATA. *Pho. testâ tenui, subfusiformi, anticè apertâ, angustâ, acuminatâ, spiniferâ, medio ventricosâ, medio posticèque costellis vix elevatis et rugis concentricis laqueatis decussatâ; posticè subattenuatâ, acuminatâ; valvulis dorsalibus duabus, super umbones locatis, nucleis anticis sub-approximatis.*

THE FLUTED PHOLAS. Shell thin, rather fusiform, anteriorly open, narrow, acuminated, spinous, centrally ventricose, centrally and posteriorly decussated with scarcely elevated ribs and concentric ridges; posteriorly rather attenuated, acuminated; dorsal valves two, placed upon the umboes, with anterior, nearly approximate nuclei.

SOWERBY. Proc. Zool. Soc., 1849.

Hab. Isle of Plata. *H. Cuming.*

The pair of plates covering the umboes resemble those of *Pholas Chiloensis*, but the form of the shell resembles more nearly that of *Pholas candida*.

Species 14. (Mus. Brit.)

PHOLAS TRUNCATA. *Pho. testâ latâ, brevi, anticè acuminatâ, subrostratâ, latè apertâ, radiatim acutè costatâ, margine dorsali reflexo, posticè oblongâ, quadratâ, truncatâ, concentricè liratâ; valvulâ dorsali unicâ, nucleo posticè ferè terminali.*

THE TRUNCATED PHOLAS. Shell wide, short, anteriorly acuminated, subrostrated, widely open, radiately acutely ribbed, dorsal margin reflected; posteriorly oblong, square, truncated, concentrically ridged, dorsal valve single, with the nucleus nearly terminal posteriorly.

SAY. American Journ. of Sci., vol. ii. p. 321.

Hab. North America.

Species 15. (Fig. *a*, *b*, *c*, Mus. Cum. in Brit.)

PHOLAS CRUCIFERA. *Pho. testâ subcylindraceâ, anticè obtusâ, haud latè apertâ; omnino costis creberrimis imbricatis radiatâ; margine dorsali in formâ crucis reflexo, laminâ corneâ tecto.*

THE CROSS-BEARING PHOLAS. Shell subcylindrical, anteriorly obtuse, not widely open; everywhere rayed with very close imbricated ribs; dorsal margin reflected in the form of a cross, covered by a horny plate.

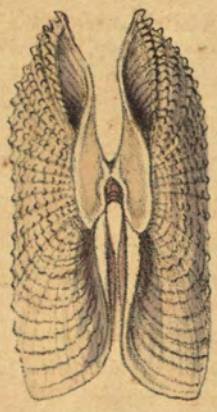
SOWERBY. Proc. Zool. Soc., 1834.

Hab. Island of Puma in the Gulf of Guayaquil; found in soft sandstone at half-tide. Also in the Bay of Carraccas, West Columbia, in soft stone at low water, and in hard clay, 13 fathoms deep, in the Gulf of Nocoyo, Central America.

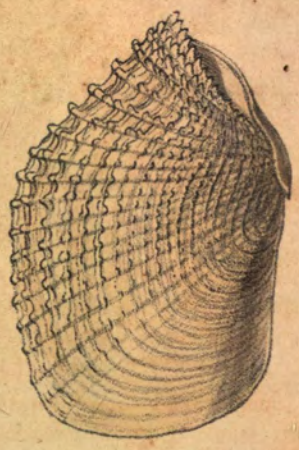
A most remarkable species on account of the cruciform reflexion of its dorsal margin.

March, 1872.

16.a.



17.a.



17.b.

18.

19.

20.

16.b.

Sowerby, del et Lith.

Vincent Brooks, Day & Son. Imp.

PHOLAS.

PLATE V.

Species 16. (Fig. *a*, *b*, Mus. Brit.)

PHOLAS CURTA. *Pho. testâ parvâ, fusco-viridescenti, pyriformi, clausâ, tenui, canali angusto medio constrictâ, anticè tenuiter striatâ, vix echinatâ, margine ventrali globoso, valvulâ dorsali oblongo-hexagonâ; anticè lævigatâ, acuminatâ.*

THE SHORT PHOLAS. Shell small, greenish-brown, closed, thin, constricted in the middle by a narrow canal, finely striated anteriorly, scarcely echinated, with ventral margin globose, dorsal valve oblong, hexagonal; anteriorly smooth, acuminated.

SOWERBY. Proc. Zool. Soc., 1834.

Hab. West Columbia. In soft stone at low water. A small shell, with one cutaneous plate covering the umboes, and thoroughly enclosed when full grown.

Species 17. (Fig. *a*, *b*.)

PHOLAS LATISSIMA. *Pho. testâ subcompressâ, latâ, subquadratâ, laîè utrinque apertâ, posticè latè truncatâ, anticè subacuminatâ, costellis concentricis, costisque noduliferis decussatâ; umbonibus subcentralibus, marginibus dorsalibus reflexis.*

THE VERY WIDE PHOLAS. Shell subcompressed, broad, subquadrate, widely open on both sides, widely truncated posteriorly; anteriorly subacuminated, decussated with concentric ridges and radiating nodulose ribs; umboes subcentral, dorsal margins reflected.

SOWERBY. Proc. Zool. Soc., 1849.

Hab. Manilla Bay. Taken by Mr. Cuming. This species appears to have no accessory valves.

Species 18. (Mus. Cuming in Brit.)

PHOLAS CALIFORNICA. *Pho. testâ magnâ, ventricosâ, subcylindricâ, in partes tres obliquè divisâ; parte anticâ prope marginem ventralem sublœvigatâ, dorso usque ad medium imbricatim costato; parte mediâ planâ, epidermide crassâ, indutâ; parte posticâ obliquè triangulari, transversè epidermide laminatâ, ad terminum truncatâ; margine ventrali integumento diviso, elongato, corneo, cœlato; margine dorsali integumento triplicato, elongato, ad umbones angustato cœlato.*

THE CALIFORNIAN PHOLAS. Shell large, ventricose, subcylindrical, obliquely divided into three parts; anterior part rather smooth near the ventral margin; from the back to the middle with imbricated ribs; middle part smooth covered with a thick epidermis; posterior part obliquely triangular, transversely laminated with an epidermis, truncated at the end; ventral margin hidden by a divided, elongated, horny integument; dorsal margin hidden by a triplicate, elongated integument, narrow at the umboes.

CONRAD. Ann. Nat. Sci. Phil., vol. i. p. 236, t. 18, f. 4.

Hab. Monte Rey, California, in sandstone under deep water. *M. Hartweg.* The largest and one of the most curious of the enclosed species.

Species 19. (Mus. Cuming in Brit.)

PHOLAS ACUMINATA. *Pho. testâ clausâ, subpyriformi, ventricosâ, in partes tres obliquè divisâ; parte anticâ rotundâ, versus marginem dorsalem minutè radiatim scabrâ; parte mediâ latè planâ, epidermide crassâ indutâ; parte posticâ acutè angulatâ, attenuatâ; marginibus dorsalibus ventralibusque integumentibus plicatis cœlatis; valvulâ dorsali unicâ magnâ, subquadratâ.*

THE ACUMINATED PHOLAS. Shell closed, subpyriform, ventricose, obliquely divided into three parts; anterior part rounded, radiately scabrous towards the dorsal margin; middle part broadly flat, covered

with a thick epidermis; posterior part acutely angular, attenuated; dorsal and ventral margins covered with folded integuments; a single dorsal valve, large and rather square.

SOWERBY. Proc. Zool. Soc., 1834.

Hab. Panama. In limestone rocks at low water. Differing in form from *Pholas calvâ*, being narrower, and more acuminated, with a smaller, rather square dorsal shield.

Species 20. (Mus. Cum. in Brit.)

PHOLAS CALVA. *Pho. testâ clausâ, latâ, subpyriformi, anticè rotundâ; medio plano, epidermide crassâ indutâ; anticè attenuatâ, laminatâ, ad terminum subacuminatâ, marginibus dorsalibus ventralibusque integumentibus plicatis cœlatis; laminâ dorsali latè expansâ, lobatâ.*

THE SKULL PHOLAS. Shell closed, wide, subpyriform, anteriorly rounded; middle flat, covered with a thick epidermis; anteriorly attenuated, laminated, subacuminated at the end; dorsal and ventral margins covered with folded integuments; dorsal lamina broadly expanded lobed.

SOWERBY. Proc. Zool. Soc., 1834.

Hab. Panama Bay. In hard stone, at low water. A broad, somewhat irregularly-lobed dorsal shield is expanded over a large part of the dorsal margin and part of the rounded head.

21

22. a.

22. b.

23. a.

24. a.

24. b.

23. b.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

PHOLAS.

PLATE VI.

Species 21. (Mus. Boston).

PHOLAS SEMICOSTATA. *Pho. testâ parvâ, brevi, ventricosâ, cute testaceo anticè clauso, posticè in tubam prolongato; testâ in medio obliquè divisâ, anticè subacutè sinuatâ, distanter costatâ, posticè leviter rugatâ, brevi.*

THE HALF-RIBBED PHOLAS. Shell small, short, ventricose, closed anteriorly and elongated posteriorly by a testaceous integument into a tube; shell obliquely divided in the middle, anteriorly rather acutely sinuated, distantly ribbed, posteriorly lightly wrinkled, short.

LEA. Pro. Bost. Soc. Nat. Hist., Nov. 1814, pl. xxiv. f. 1.

Hab. South Carolina.

The regular part of the shell, which has almost the form of a Teredina, is supplemented and extended by less laminated structure, filling up the hiatus in front and forming a tapering tube towards the posterior extremity.

Species 22. (Mus. Brit.)

PHOLAS RIVICOLA. *Pho. testâ clausa, cuneiformis, transversè canali divisâ; parte anticâ obliquè dimidiatâ, versus dorsum striatâ, versus marginem ventralem lævigatâ, ventricosâ; parte posticâ elongatâ, laminis fimbriatis cutaneis angulariter dispositis ornatâ; valvulis dorsalibus duabus, subquadratis.*

THE RIVER PHOLAS. Shell closed, cuneiform, transversely divided by a canal; the anterior part obliquely divided in half, striated towards the back, smooth, ventricose towards the ventral margin; posterior part elongated, ornamented with fringed cutaneous layers angularly disposed. Dorsal valves two, subquadrate.

SOWERBY. Proc. Zool. Soc., 1840.

Hab. Gunny Taboor, River Pantai.

This species was first collected by Mr. Arthur Adams in a part of the river in Borneo twelve miles distant from the sea, where the water was perfectly fresh. The singular fringed laminæ of epidermis distinguish this freshwater species from all others.

Species 23. (Fig. *a*, *b*, Mus. Brit.)

PHOLAS MELANURA. *Pho. testâ clausâ, subovati, in medio canali serrato divisâ; parte anticâ imbricatim costatâ, margine ventrali lævigato, inflato dorso confluente, margine dorsali validè reflexo et tumido, ad umbones scutis duobus subquadratis super laminas latas dispositis diviso; parte postico concentricè lyratâ, epidermide nigricante, ad terminum tumulis corneis, inflatis, subreniformis duobus ad tubam testaceam affixis.*

THE BLACK-TAILED PHOLAS. Shell closed, subovate, divided in the middle by a serrated canal; anterior part with imbricated ribs, ventral margin smooth inflated, confluent with the back, dorsal margin strongly reflected and tumid, divided at the umboes by two subquadrate shields placed upon wide laminæ; posterior part concentrically ridged, with a blackish epidermis, and at the end two horny, inflated, subreniform swellings fixed to the shelly tube.

SOWERBY, Proc. Zool. Soc., 1834.

Hab. Monte Christo.

A fine characteristic species found by the late Mr. Cuming in hard clay and loose stones.

Species 24. (Fig. *a*, *b*, Mus. Cuming in Brit.)

PHOLAS BRANCHIATA. *Pho. testâ pyriformi, clausâ, anticè ventricosâ, in partes tres obliquè divisâ; parte anticâ prope marginem ventralem lævigatâ, medio et ad dorsum minutè scabroso-striatâ; parte mediâ*

planâ, epidermide crassâ striatâ indutâ; parte posticâ attenuatâ, epidermide laminis lævigatis rotundatis dispositâ; scuto dorsale amplo, expanso; integumentis dorsalibus et ventralibus elongatis.

THE BRANCHIATE PHOLAS. Shell pyriform, closed, anteriorly ventricose, obliquely divided into three parts; anterior part smooth near the ventral margin; minutely scabro-striated in the middle and at the back; middle part flat, covered with a thick striated epidermis; posterior part attenuated, the epidermis placed in smooth, rounded laminæ; dorsal shield ample expanded, dorsal and ventral integuments elongated.

GOULD, Proc. Bost. Soc. Nat. Hist., 1845, p. 290.

Hab. ——?

With the exception of the marginal integuments and dorsal shield the characters of this species resemble those of *Pholas Calva*.

26. a.

25. a.

26. b.

27. a.

28.

27. b.

29. a.

25. b.

29. b.

Sowerby, del. et lith.

Vincent Brooks, Day & Son. Imp

PHOLAS.

PLATE VII.

Species 25. (Mus. Cum. in Brit.)

PHOLAS CLAUSA. *Pho. testâ subovatâ, ventricosâ, clausâ, omnino striis radiatis et costis moniliformibus concentricis ornatâ; margine dorsali posticè sufflato, anticè validè expanso et sufflato, ad umbones transversè inciso, super laminas transversas trigonas decumbente; ad terminum posticum subattenuatâ, epidermide nigricante, lobis quatuor inflatis, tuno integumento cyathiformi, expanso, ad latera emarginato.*

THE ENCLOSED PHOLAS. Shell subovate, ventricose, ornamented in every part with radiated striæ and moniliform concentric ribs; dorsal margin swelled posteriorly, much expanded and swelled anteriorly, transversely incised at the umboes, and lying upon transverse trigonal plates; attenuated at the posterior end with a blackish epidermis, with four inflated lobes, then a cyathiform, expanded integument emarginated at the sides.

GRAY, in Brit. Mus.

Pholas explanata, Spengler.

Hab. River Gambia.

By a strange modification of the cup character, *Pholas clausa* has a sort of cup-shaped appendage, so divided as to appear like a pair of flaps.

Species 26. (Fig. *a*, *b*, Mus. Cum. in Brit.)

PHOLAS QUADRA. *Pho. testâ oblongo-subovatâ, clausâ, medio canali serrato divisâ; parte anticâ costatâ et striatâ, margine ventrali inflato, cum margine dorsali confluenti, margine dorsali tumido, diviso, ad umbones transversè inciso; parte posticâ concentricè striatâ, in tumulis inflatis quatuor, et tubâ testaceâ terminanti.*

THE SQUARE PHOLAS. Shell oblong-subovate, closed, divided in the middle by a serrated canal; anterior part ribbed and striated; ventral margin inflated, confluent with the dorsal margin; dorsal margin tumid, divided; transversely incised at the umboes; posterior part concentrically striated, terminating in four inflated swellings, and in a testaceous tube.

SOWERBY, Proc. Zool. Soc., 1834.

Hab. Monte Christo.

Not terminating in a half membranaceous cup as in Pholas papyracea, but in four horny swellings surmounting a shelly tube.

Species 27. (Fig. *a*, *b*, Mus. Brit.)

PHOLAS CORTICARIA. *Pho. testâ parvâ, clausâ, mediâ constrictâ; anticè angulatim longitudinaliter costatâ, costis serratis, margine ventrali lævigato; posticè propè medium concentricè striatâ, extremitate plus minusve attenuatâ; scutibus tribus, quarum una elongata ad marginem ventralem, una elongata super marginem dorsalem posticum, una subquadrata, super umbones dispositis.*

THE BARK-COLOURED PHOLAS. Shell small, closed, constricted in the middle, angularly longitudinally ribbed in front, ribs serrated, ventral margin smooth, posteriorly near the middle concentrically striated, extremity more or less attenuated; shields three, of which one is elongated and placed on the ventral margin, one elongated on the posterior dorsal margin, and one subquadrate upon the umboes.

GRAY. MS. Mus. Brit.

Hab. ——?

The reddish colour of the shell is caused by the animal boring in floating mahogany.

Species 28. (Mus. ——?) copied.

PHOLAS BREVIS. *Pho. testâ brevi, cuneatâ, clausâ, epidermide subviridi indutâ, lævissculâ medio constrictâ, anticè ad marginem ventralem inflatâ; scuto dorsali parvo, lato, margine dorsali posticè anticèque subexpanso.*

The short Pholas. Shell short, cuneate, closed, covered with a greenish epidermis, constricted in the middle, anteriorly inflated at the ventral margin; dorsal shield small, broad; dorsal margin slightly expanded posteriorly and anteriorly.

Sowerby. Thesaurus Conchyliorum, Pholas, fig. 105.

Hab. ——?

Species 29. (Fig. *a*, *b*, Mus. Brit.)

Pholas ovata. *Pho. testâ pyriformi, ventricosâ, clausâ, in medio transversè divisâ, anticè latere dorsali radiatum costatâ, obliquè striatâ, latere ventrali inflato, lævigato; posticè lævigatâ, valvulis longitudine inæqualibus; umbonibus laminâ testaceâ expansâ celatis.*

The ovate Pholas. Shell pyriform, ventricose, closed, divided transversely in the middle, anteriorly radiately ribbed at the dorsal side, inflated and smooth on the ventral side; posteriorly smooth, with the valves unequal in length; umboes hidden by a shelly, expanded plate.

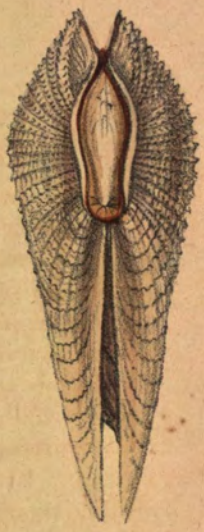
Gray. MS. in Mus. Brit.

Hab. ——?

This species, unique as far as known, in the British Museum, has some relation to the several species united in Sowerby's Thesaurus Conchyliorum under the name "Triomphalia," said to be identical with "*Jouanettia*," but it has not the false umbo and overlapping anterior margin in one valve which characterizes the genus in question, and its covering plate or shield is independent.

31. a.

30. a.



31. b.

30. b.

32. a.

32. b.

32. c.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

PHOLAS.

PLATE VIII.

Species 30. (Fig. *a*, *b*, Mus. Cuming in Brit.)

PHOLAS INCEI. *Pho. testâ subcylindricâ, brevi, ventricosâ, partibus tribus divisâ; parte anticâ propè marginem ventralem sublævigatâ, dorso usque ad medium minutè longitudinaliter et radiatim striatâ; parte mediâ planâ, epidermide crassâ indutâ; parte posticâ obliquè triangulari, epidermide laminis serratis productâ; marginis dorsalis integumento quadripartito, partibus anticis latis, brevibus, posticis latioribus elongatis.*

INCE'S PHOLAS. Shell subcylindrical, short, ventricose, divided into three parts; the anterior part smooth near the ventral margin, from back to middle minutely longitudinally and radiately striated; middle part flat, covered with a thick epidermis; posterior part obliquely triangular, with the epidermis produced in serrated laminæ; integument of the dorsal margin quadripartite, the anterior parts wide, short; the posterior parts wider, elongate.

SOWERBY. Proc. Zool. Soc., 1849.

Hab. Raine's Island, Torres Straits.

This extremely curious species was first procured by Captain Ince, R.N., in coral rock.

Species 31. (Fig. *a*, *b*, Mus. Cuming in Brit.)

PHOLAS MANILLÆ. *Pho. testâ apertâ, elongatâ, anticè subangulatâ, costis subdistantibus acutissimè imbricatis omnino radiatâ; umbonibus subanticis; areâ laterali ante umbones ad marginem dorsalem planâ; scuto dorsali parvo, arcuato.*

THE MANILLA PHOLAS. Shell open, elongated; anteriorly slightly angular, rayed all over with rather distant very acutely imbricated ribs; umboes rather anterior; lateral area in front of the umboes at the dorsal margin flat.

SOWERBY. Proc. Zool. Soc., 1849. Thesaurus Conchyliorum, No. 10, plate ciii. f. 17, 18.

Hab. Manilla Bay.

Collected by the late Mr. Cuming.

Species 32. (Fig. *a*, *b*, *c*. Mus. Brit.)

PHOLAS STRIATA. *Pho. testâ clausâ, medio obliquè divisâ, anticè angulatim longitudinaliter, costatâ; costis serratis; margine antico-ventrali lævigato, rotundato; parte posticâ versus medium concentricè striatâ; extremitate plus minusve productâ, et attenuatâ; scuto ventrali uno elongato; scutis dorsalibus duobus, uno lato subquadrato, super umbones disposito, uno postico, elongato, angusto.*

THE STRIATED PHOLAS. Shell closed, obliquely divided in the middle, anteriorly angularly longitudinally ribbed; ribs serrated; anterior ventral margin smooth, rounded; posterior part concentrically striated towards the margin, extremity more or less produced and attenuated; one elongated ventral shield, two dorsal shields, one wide, subquadrate, placed upon the umboes; one posterior, elongated, narrow.

LINNÆUS. Systema Naturæ.

Pholas nana. Pulteney.

Pholas pusilla. Linnæus.

Pholas lignorum. Spengler.

Pholas conoides. Fleming.

Pholas clavata. Lamarck.

Hab. Coasts of Great Britain, and almost everywhere, floating.

33. a.

34.

33. b.

35. a.

36. a.

36. b.

35. b.

37. a.

37. b.

38.

PHOLAS.

PLATE IX.

Species 33. (Fig. *a*, *b*.)

PHOLAS CUNEIFORMIS. *Pho. testâ parvâ, cuneatâ, clausâ, obliquè canali serrato divisâ; margine ventrali antico lævigato, rotundato, latere dorsali costis longitudinalibus, arcuatis, serratis rugato; posticè concentricè striatâ, plus minusve attenuatâ; scutis marginalibus tribus, uno ad marginem ventralem elongato, uno ad marginem dorsalem angustissimo, uno super umbones disposito lato, anticè obtusè angulato, posticè acuminato.*

THE WEDGE-SHAPED PHOLAS. Shell small, cuneate, closed, obliquely divided by a serrated canal; anterior ventral margin smooth, round, dorsal side roughened with longitudinal arched, serrated ribs; posteriorly concentrically striated, more or less attenuated; marginal shields three, one elongated, on the ventral margin; one very narrow, on the dorsal margin, one broad, placed upon the umboes, anteriorly obtusely angular, posteriorly acuminated.

SAY. Journ. Sci. Philad., vol. ii. p. 322.

Hab. N. America.

The umbonal shield, instead of being broad and large as in *Pholas striata*, is narrow and lozenge-shaped, more acute posteriorly than anteriorly.

Species 34. (Mus. Cuming in Brit.)

PHOLAS APERTA. *Pho. testâ globosâ, apertâ, in medio canali serrato divisâ; anticè ad marginem ventralem subangulatâ; costis laqueatis concentricis ornatâ; posticè lævigatâ, subattenuatâ; laminis dorsalibus quatuor, parvis, super umbones dispositis.*

THE OPEN PHOLAS. Shell globose, open, divided in the middle by a serrated canal; anteriorly rather angular at the ventral margin; ornamented with concentric fluted ribs; smooth posteriorly, subattenuated; dorsal plates four, small, placed upon the umboes.

SOWERBY. Proc. Zool. Soc., 1849.

Hab. Straits of Sunda and Banca.

Burrowing in floating mahogany, the shell of this species has a reddish tint. The dividing groove is nearer the anterior than the posterior end, while in *Pholas teredinæformis* the contrary is the case. It has two pairs of dorsal plates, while the last mentioned species has but one.

Species 35. (Fig. *a*, *b*, Mus. Brit.)

PHOLAS OBTECTA. *Pho. testâ ovatâ, subpyriformi, clausâ, canali medio divisâ; parte anticâ latere dorsali minutè striatâ, latere ventrali lævi, rotundo; parte posticâ lævi, marginibus ventralibus dorsalibusque laminis elongatis obtectis, ad terminum angustis, in laminas articulatas cyathiformes productâ; scuto dorsali magno, ad umbones bilobato, anticè versus marginem ventralem late expanso.*

THE SHELTERED PHOLAS. Shell ovate, subpyriform, closed, divided in the middle by a canal, anterior part minutely striated at the dorsal side; posterior part smooth, rounded; dorsal and ventral margins covered with long plates, narrow at the end, produced into cyathiform articulated laminæ; dorsal shield large, bilobed at the umboes, anteriorly widely expanded towards the ventral margin.

SOWERBY. Proc. Zool. Soc., 1849. Thesaurus Conchyliorum, Monog. Pholas, No. 10, pl. 108, f. 80, 81.

Hab. North Coast of Australia.

J. E. Doring, Esq., R.N., collected this interesting species at Turtle Island in coral rock at low water.

Species 36. (Fig. *a*, *b*, Mus. Cuming in Brit.)

PHOLAS TEREDINÆFORMIS. *Pho. testâ globosâ, apertâ, in medio per canalem serratum divisâ; anticè ad marginem ventralem subangulatâ, costis laqueatis concentricis ornatâ; posticè brevi, lævigatâ; laminâ dorsali unâ, subquadratâ, super marginem reflexam valvarum dispositâ.*

The teredeniform Pholas. Shell globose, open, divided in the middle by a serrated canal; anteriorly subangulated at the ventral margin, ornamented with fluted concentric ribs; posteriorly short, smooth; dorsal plate single, subquadrate, placed upon the reflected margin of the valves.

Sowerby. Proc. Zool. Soc., 1849.

Hab. Cuba.

This species, which was found burrowed in floating wax, and the *Pholas aperta*, so nearly resembling it, are so short as to resemble *Teredinæ* or *Xylophagæ* in general appearance. The valves of the former, however, have no dorsal plates, and those of the latter want the curved subumbonal processes, characteristics of the true *Pholades*, of which the present species is unquestionably one.

Species 37. (Fig. *a*, *b*, Mus. Brit.)

Pholas multistriata. *Pho. testâ oblongâ, clausâ, transversè ante medium per canalem serratum divisâ, parte anticâ prope marginem ventralem lævigatâ, latere dorsali minutissimè striatâ; parte posticâ lævigatâ, per laminas tumidas elongatâ et acuminatâ; scuto dorsali ovali anticè, semicirculari, posticè subacuminatâ.*

The many-striated Pholas. Shell oblong, closed, transversely divided by a serrated canal in front of the middle, anterior part near the ventral margin smooth, at the dorsal side very minutely striated, posterior part smooth, elongated and acuminated by tumid laminæ; dorsal shield oval anteriorly, rather pointed posteriorly.

Sowerby. Proc. Zool. Soc., 1849. Thesaurus Conchyliorum, No. 10, Pholas, pl. 104, fig. 35, 36.

Hab. Turtle Island, North Coast of America.

The striæ on the umbonal part of this species are exceedingly fine. The posterior part of the shell appears lengthened out by laminæ, which are partially distinct from the valves, yet form a part of them.

Species 38. (Mus. Cuming.)

Pholas quadrigonalis. *Pho. testâ clausâ, subcylindricâ, ventricosâ, in partes tres obliquè transversales divisâ; parte anticâ prope marginem ventralem lævigatâ, in medio et ad dorsum minutè striatâ; parte medianâ planâ; parte posticâ epidermide laminis serratis indutâ; marginis dorsalis integumento subtestaceo, in partes quatuor, quarum duas anticas breves, duas posticas elongatas, trilobatas, diviso.*

The quadrigonal Pholas. Shell closed, subcylindrical, ventricose, divided into three obliquely transverse parts; anterior part smooth near the ventral margin, minutely striated in the middle and at the back; middle part flat; posterior part covered with an epidermis in serrated layers; integument of the dorsal margin subtestaceous, divided into four parts, of which the two anterior are short, and the two posterior elongated, trilobate.

Spengler ——?

Hab. ——?

Very little is known of the natural history of this very interesting shell, which in some characters resembles *Pholas Incei*.

38 a

39 a

39 b

40

41 a

41 b

38 b

Sowerby del et lith.

Vincent Brooks Day & Son Imp.

PHOLAS.

PLATE X.

Species 38*. (Fig. *a*, *b*, Mus. Brit.)

PHOLAS TRIDENS. *Pho. testâ clausâ, subovati, canali serrato divisâ, parte anticâ costatâ et lineatâ, margine ventrali inflato, cum margine dorsali confluenti; margine dorsali tumido, diviso, ad umbones transversè inciso; parte posticâ concentricè lineatâ, ad terminum tumis arcuatis duabus, ad marginem posticum integumenti cyathiformi; cyatho intùs callo tripartito.*

THE THREE-TOOTHED PHOLAS. Shell closed, subovate, divided by a serrated canal, anterior part ribbed and lineated, ventral margin inflated, confluent with the dorsal margin; dorsal margin tumid, divided transversely, incised at the umboes; posterior part concentrically lineated, with two arched swellings, and at the posterior margin a cup-shaped integument; cup with a tripartite callus within.

GRAY (Talona). Brit. Mus. Cat.

Hab. Monte Christo.

In some respects resembling *Pholas papyracea*, but with a curious three-pronged callus inside the cup.

Species 39. (Fig. *a*, *b*, Mus. Brit.)

PHOLAS TUBIFER. *Pho. testâ clausâ, subovati, canali serrato divisâ; parte anticâ costatâ et lineatâ, margine ventrali inflato, cum margine dorsali confluenti; margine dorsali tumido, diviso, ad umbones transversè inciso; parte posticâ concentricè striatâ, ad terminum spathulis duabus subquadratis, corneis, ad tubam testaceam plus minusve elongatam affixis.*

THE TUBE-BEARING PHOLAS. Shell closed, divided by a serrated canal; anterior part costated and lineated, ventral margin inflated, confluent with the dorsal margin; dorsal margin tumid, divided transversely, slit at the umboes; posterior part concentrically striated, with two rather square horny flaps fixed to a more or less lengthened shelly tube.

SOWERBY. Proc. Zool. Soc., 1834.

Hab. Bay of Caraccas, West Columbia.

Collected by the late Mr. Cuming in decayed wood.

Species 40. (Mus. Jeffreys, &c.)

PHOLAS PAPYRACEA. *Pho. testâ subcylindraceâ, clausâ, canali serrato divisâ, parte anticâ costatâ et imbricatâ, margine ventrali lævi, inflato, margine dorsali confluenti, usque ad umbones reflexo, tumido; parte posticâ lævi, subtruncatâ, ad terminum appendice cyathiformi lateribus subquadratis.*

THE PAPYRACEOUS PHOLAS. Shell subcylindrical, closed, divided by a serrated canal, anterior part ribbed and imbricated, ventral margin smooth, inflated; dorsal margin confluent, reflected as far as the umboes, tumid; posterior part smooth subtruncated, with a square-sided cup-shaped appendage.

LINNÆUS. Systema Naturæ.

Pholas nana, Pulteney } Young.
Pholas pusilla, Lamarck }

Hab. Great Britain.

A well-known British Species.

Species 41. (Fig. *a*, *b*, Mus. Brit.)

PHOLAS CONCAMERATA. *Pho. testâ ventricosâ, clausâ, obliquè divisâ; parte anticâ inflatâ, radiatim costatâ, costis imbricatis, marginibus dorsalibus latè reflexis; parte posticâ striatâ, ad terminum subquadratâ; in cyatho corneo ad latera diviso, productâ; ad umbones laminâ subquadratâ, magnâ, posticè subacuminatâ; tùm laminis duabus latis cum marginibus terminalibus testæ confluentibus.*

THE CHAMBERED PHOLAS. Shell ventricose, closed, obliquely divided; anterior part inflated, radiately ribbed, ribs imbricated, dorsal margins widely reflected; posterior part striated, subquadrate at the end, produced into a horny cup divided at the sides; a large subquadrate, posteriorly acuminated subquadrate lamina at the umboes, then two wide laminæ confluent with the terminal margins of the shell.

DESHAYES ——— ?

Hab. Monte Rey, California.

42 a

43 a

43 b

44

45 a

45 b

42 b

Sowerby del. et lith.

Vincent Brooks. Day & Son. Imp.

PHOLAS.

PLATE XI.

Species 42. (Fig. *a*, *b*, Mus. Brit.)

PHOLAS GLOBOSA. *Pho. testâ subovatâ, posticè subattenuatâ, anticè globosâ, valvis divisis; parte posticâ concentricè liratâ, in medio costâ imbricatâ unâ; parte anticâ etiam liratâ, radiatim costis acutè imbricatis ornatâ; valvâ dextrâ productâ sublinguæformi, dentibus acutis recurvis serratâ; nucleo laminæ terminalis valvæ sinistræ triangulari, striato, subcomplanato.*

THE GLOBOSE PHOLAS. Shell subovate, posteriorly subattenuated, anteriorly globose, valves divided, posterior part concentrically ridged, with a single imbricated rib in the middle; anterior part also ridged, ornamented with radiating imbricated ribs; right valve produced, rather tongue-shaped, serrated with acute recurved teeth; nucleus of the terminal lamina of the left valve triangular striated, flattish.

QUOY. Voy. Astrolabe.

Triomphalia globosa, Sowerby.

Jouanettia globosa, Nonnull.

Hab. Isle of Leyte, Philippines.

Found in the soft stone at low water. I have not yet ascertained whether the group of Pholades of which this is typical is really entitled to the generic appellation of *Jouanettia*, but my impression is that the term "*Triomphalia*," which I applied to it in the Thesaurus, will have to be resumed.

Species 43. (Fig. *a*, *b*, Mus. Brit.)

PHOLAS CUMINGII. *Pho. testâ rotundatâ, crassâ; valvis posticè canali divisis, concentricè lineis elevatis liratis, anticè costis minutis serratis radiatis; parte posticâ concentricè laminatâ; valvâ dextrâ posticè in lingulâ triangulari margine triplicato productâ; valvâ sinistrâ posticè brevissimâ, margine terminali circulari.*

CUMING'S PHOLAS. Shell rounded, thick; valves divided posteriorly by a canal, concentrically ridged with raised lines; posterior part concentrically laminated; right valve posteriorly produced into a triangular triple-bordered tongue; left valve posteriorly very short, terminal margin circular.

SOWERBY. Proc. Zool. Soc., 1849.

Hab. Isle of Zebu, Philippines.

Found by the late Mr. Cuming in coral rock in low water.

Species 44. (Mus. Brit.)

PHOLAS PULCHERRIMA. *Pho. testâ subovati, ventricosâ, posticè globosâ, corrugatâ, anticè subattenuatâ; valvis transversè divisis; parte posticâ costis distantibus concentricè liratâ; parte anticâ lineis liratâ, costis imbricatis radiatâ; valvâ dextrâ productâ, linguæformi, margine dentibus acutis crispatis serrato; nucleo laminæ terminalis valvæ sinistræ subtriangulari, rotundo, lineis elevatis lirato.*

THE VERY BEAUTIFUL PHOLAS. Shell subovate, ventricose, posteriorly globose, corrugated, anteriorly subattenuated, valves transversely divided; posterior part concentrically ridged with distant ribs; anterior part ridged with lines, rayed with imbricated ribs; left valve produced, tongue-shaped, margin serrated with sharp curved teeth; nucleus of the terminal lamina of the left valve rather triangular, rounded, ridged with elevated lines.

SOWERBY. Proc. Zool. Soc., 1849.

Hab. West Columbia.

This magnificent species was taken by the late Mr. Cuming in soft stone at low water.

Species 45. (Fig. *a*, *b*, Mus. Brit.)

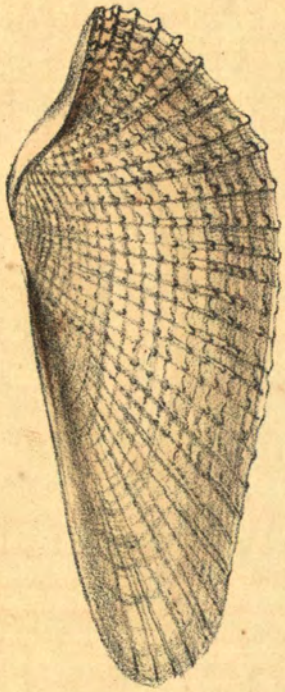
PHOLAS SPATHULATA. *Pho. testâ elongatâ, clausâ, obliquè divisâ; parte anticâ radiatim costatâ, sub-*

angulatâ; parte posticâ concentricè leviter striatâ, subtruncatâ, ad margines integumento protectâ, ad terminum in cyatho corneo, lateribus spathuliformibus productâ; ad umbones laminis duabus æqualibus, posticè bilobatis, anticè elongatis.

THE SPATHULATE PHOLAS. Shell elongated, closed, obliquely divided; anterior part radiately ribbed, subangulated; posterior part concentrically lightly striated, subtruncated, protected at the margins by an integument, produced at the end into a horny cup with spathulate sides; two equal laminæ, bilobed posteriorly elongated anteriorly at the umboes.

SOWERBY. Proc. Zool. Soc., 1849.

Hab. New Zealand.



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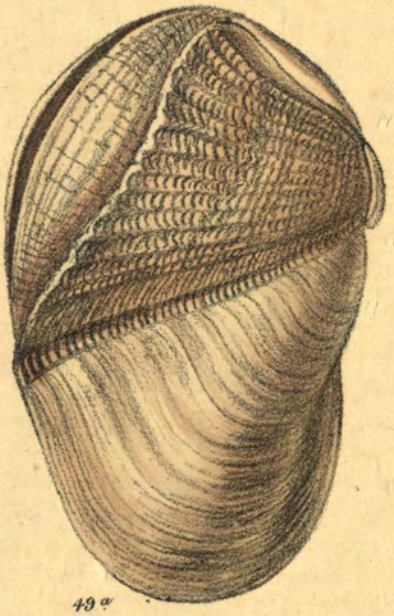
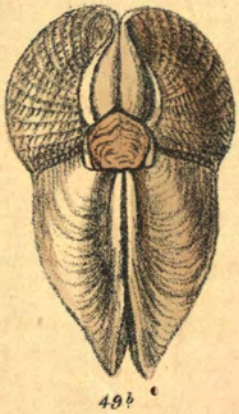


49 a

50



49 b

51

Sowerby del et lith.

Vincent Brooks Day & Son, Imp.

PHOLAS.

PLATE XII.

Species 46. (Mus. Brit.)

PHOLAS GRAYANA. *Pho. testâ subpyriformi, brevi, clausâ, anticè rotundatâ, medio canali serrato divisâ; parte anticâ tenuiter striatâ, parte posticâ lævigatâ, cuneatâ, laminâ dorsali unicâ, subquadratâ.*

GRAY'S PHOLAS. Shell subpyriform, short, closed, rounded in front, divided in the middle by a serrated canal; anterior part finely striated, posterior part smooth, wedge-shaped, with a single dorsal, rather square plate.

LEACH. MS. Brit. Mus.

Hab. ——?

One of the shortest of the closed species.

Species 47. (Mus. Brit.)

PHOLAS BAKERI. *Pho. testâ subcylindraceâ, apertâ, anticè acuminatâ, margine dorsali reflexo, antè medium latissimâ, costis distantibus, liris imbricatis anticè acutiùsculis radiatâ; laminis dorsalibus ignotis.*

BAKER'S PHOLAS. Shell subcylindrical, open, anteriorly acuminated, dorsal margin reflected, before the middle very wide, rayed with distant ribs, imbricated by ridges rather sharper towards the front; dorsal plates unknown.

——? MS. Brit. Mus.

Hab. ——?

Distinguished by the width of the upper part of the valves from other similar species.

Species 48. (Mus. Brit.)

PHOLAS ERYTHRÆA. *Pho. testâ elongatâ, apertâ, subcylindraceâ, tenuiter imbricato-costatâ, latere antico brevi, acuminato, latè hianti, medio tumidiùsculo, latere postico lævigato, attenuato.*

THE GOLDEN-TINTED PHOLAS. Shell elongated, open, subcylindrical, finely imbricately ribbed, anterior side short, acuminated, widely gaping, middle rather tumid; posterior side smooth, attenuated.

GRAY. MS. Mus. Brit.

Hab. ——?

Species 49. (Fig. *a*, *b*, Mus. Brit.)

PHOLAS OVOIDEA. *Pho. testâ magnâ, solidâ, clausâ, ventricosissimâ, medio obliquè per canalem liratum divisâ, parte antico-dorsali acutè radiatim costatâ, et concentricè creberrimè imbricatâ, margine dorsali duplicatim reflexo, ad umbones laminâ subquadratâ crassâ tectâ; parte posticâ lævigatâ.*

THE EGG-SHAPED PHOLAS. Shell large, solid, closed, very ventricose, divided in the middle by a ridged canal, antero-dorsal part acutely radiately ribbed, and concentrically very closely imbricated, dorsal margin doubly reflected, covered at the umboes with a somewhat square thick lamina; posterior part smooth.

GOULD. ——?

Hab. Monterry.

Species 50. (Mus. Brit.)

PHOLAS LIGNIPERDA. *Pho. testâ tenui, albâ, cuneiformi, subirregulari, clausâ, antè medium divisâ; posticè attenuatâ; umbonibus laminâ unicâ subquadratâ anticè acuminatâ tectis.*

THE WOOD-BURROWING PHOLAS. Shell thin, white, wedge-shaped, rather irregular, closed, divided anterior to the middle; posteriorly attenuated; umboes covered by a single rather square, anteriorly acuminated plate.

Deshayes. —— ?

Hab. Port Essington.

The specimens in the British Museum are imbedded in a very hard blackish wood, the boring having been made across the grain.

Species 51. (Mus. Brit.)

Pholas falcata. *Pho. testâ brevi, subcuneiformi, canali serrato divisâ (clausâ ?) parte anticâ serrato-striatâ, parte posticâ prope canalem concentricè liratâ, prope terminum lævigatâ; laminâ dorsali cuneatâ, medio divisâ.*

The hooked Pholas. Shell short, subcuneiform, divided by a serrated canal (closed ?) anterior part serrato-striated, posterior part near the canal concentrically lirated; smooth near the end, dorsal plate cuneated, divided in the middle.

Gray. MS. Brit. Mus.

Hab. Hudson's Bay.

A rather dubious little species.

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ERRATUM.

Plate IX., species 38, text,—for quadrgionalis *read* quadrizonalis.

MONOGRAPH

OF THE GENUS

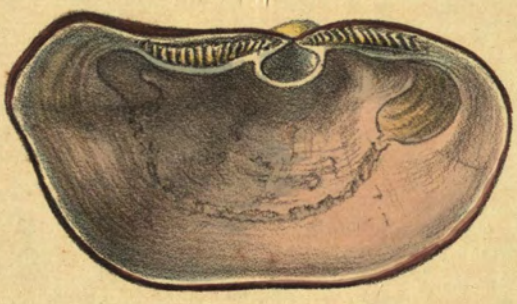
YOLDIA.

"All on the land, or in the ocean bred,
On Thee depend, in their due season fed."—*George Sandys.*

1.a.

2.a.

2.b.



1.b.

3.a.

3.b.

1.c.

Sowerby, del.et lith.

Vincent Brooks, Day & Son, Imp.

YOLDIA.

PLATE I.

Genus YOLDIA, *Möller.*

Testa bimusculosa, æquivalvis, oblonga, compressa, frequenter utrinque hians, intùs nacrea; latere postico haud attenuato; margine cardinali angulato, dentibus utrinque numerosis; ligamento interno.

Shell bimuscular, equivalve, oblong, compressed, frequently gaping at both ends, pearly within; posterior side not attenuated; hinge margin angular, the teeth on each side numerous; ligament internal.

The *Yoldiæ* have not the peculiar cuneate form of *Nucula*, nor is the posterior side rostrated and produced as in the *Lædæ*. In many of the species the valves are slightly parted at each end. A large proportion are inhabitants of the northern seas both of Europe and America.

Species 1. (Fig. *a*, *b*, *c*, Mus. Brit.)

YOLDIA THRACIÆFORMIS. *Yol. testâ oblongo-subquadratâ, ventricosissimâ, lævigatâ; epidermide olivaceo valido indutâ; intùs pallidissime roseâ, fossâ cartilaginiferâ magnâ; latere postico angulato, latè suprà et infrà obtusè truncato; margine dorsali depresso, subconcavo, areâ impressâ, latâ, definitâ; latere antico breviùsculo, subcuneato.*

THE THRACIÆFORM YOLDIA. Shell oblong-subquadrate, very ventricose, smooth, covered with a strong olive epidermis; very pale rose within, cartilaginiferous pit large; posterior side angular, obtusely truncated above and below; dorsal margin depressed, subconcave, impressed area wide, defined; anterior side rather short, rather cuneate.

STORER. Boston Journal, vol. ii. p. 122.

Yoldia angularis, Müller (young.)

Nucula laternaria, Valenciennes.

Nucula navicularis, Couthay.

Yoldia Mulleri, Gray.

Species 2. (Fig. *a*, *b*, Mus. Brit.)

YOLDIA WOODWARDI. *Yol. testâ ovato-subacuminatâ, oblongâ, compressâ, lævigatâ, inæquilaterali; latere postico brevi, acuminato, ad terminum truncato, margine dorsali depresso, margine ventrali ante rostrum paulo concavo; latere antico producto, elliptico, margine dorsali convexo.*

WOODWARD'S YOLDIA. Shell ovate-subacuminate, oblong, compressed, smooth, inequilateral; posterior side short, acuminated, truncated at the end, dorsal margin depressed, ventral margin a little concave in front of the beak; anterior side produced, elliptic, dorsal margin convex.

HANLEY. Proc. Zool. Soc., 1860.

Hab. Falkland Islands.

Species 3. (Fig. 3, *a*, *b*, Mus. Brit.)

YOLDIA AMYGDALA. *Yol. testâ compressâ, ovato-lanceolatâ, subæquilaterali, epidermide fusco vel olivaceo radiato, nitenti, indutâ; latere postico subacuminato, ad terminum truncato, margine dorsali depresso, areâ planulatâ, definitâ; latere antico propè terminum radiatim impresso, margine ventrali paulo concavo.*

THE ALMOND YOLDIA. Shell compressed, ovately lanceolate, nearly equilateral, covered with a brown or olive rayed, shining epidermis; posterior side slightly acuminated, truncated at the end, dorsal margin depressed, area flattened, defined; anterior side radiately impressed near the end, with ventral margin a little concave.

VALENCIENNES. Zool. Nismes Moll. pl. 23, f. 6.

Hab. Kamtschatka.

November, 1871.

4.

5.a.

5.b.

6.

7.

8.

9.a.

9.a.

10.a.

10.b.

YOLDIA.

PLATE II.

Species 4. (Mus. Brit.)

YOLDIA TENELLA. *Yol. testâ parvâ, tenui, inflatâ, subpellucidâ, lævigatâ, subtrapeziformi, minutissimè striatâ; latere postico subattenuato, subrostrato, lunulâ valdè depressâ, complanatâ, medio contracto apice subcentrali; latere antico inflato, lato, subtùs hiante, subrotundo.*

THE THIN LITTLE YOLDIA. Shell small, thin, inflated, subpellucid, smooth, slightly trapeziform, very minutely striated; posterior side rather attenuated, slightly rostrated, lunule much depressed, flattened, middle contracted, apex subcentral; anterior side inflated, wide, gaping beneath, rather rounded.

HINDS. Proc. Zool. Soc., 1843, p. 99.

Hab. Singapore.

This is one of the four species enumerated by Mr. Hanley as intermediate between Leda proper and Yoldia. From its anterior ventral hiatus, and general form, it appears most closely related to the latter, although placed by the above-named author in the former.

Species 5. (Fig. *a*, *b*, Mus. Brit.)

YOLDIA SEROTINA. *Yol. testâ ovato-subrhomboideâ, tenui, subcompressâ, lævigatâ, albidâ; latere postico paulo longiore, subattenuato, compresso, haud sulcato, supernè cuneato, obscurè unicostato, lunulâ elongatâ, distinctâ, compressâ; medio subplanulato, apice acuto, margine ventrali vix contracto; latere antico breviùsculo, distanter et tenuiter subconcentricè sulcato, suprâ medium ad terminum rotundè subacuminato.*

THE EVENING YOLDIA. Shell ovate-subrhomboidal, thin, subcompressed, smooth, whitish, posterior side a little the longer, a little attenuated, compressed, not sulcated, cuneate above with an obscure rib, lunule elongated, distinct, compressed, a little flattened in the middle, apex acute, ventral margin a very little contracted; anterior side rather short, distantly and finely concentrically sulcated; roundly acuminated at the end above the middle.

A. ADAMS. Proc. Zool. Soc., 1856, p. 60.

Hab. Borneo.

The posterior side forms an oblique triangle, whose surface is free from the fine sulci which traverse the middle and anterior.

Species 6. (Mus. Brit.)

YOLDIA NICOBARICA. *Yol. testâ roseo-subaurantia, ovatâ, solidâ, subæquilâterali, latere postico subattenuato, supernè acuminato, lævigato, depresso, lunulâ distincta, cariniformi; latere antico subinflato, paulò longiùsculo, lato, ad terminum rotundo, striis minimis obliquè concentricis sculptis.*

THE NICOBAR YOLDIA. Shell rather orange-pink, ovate solid, subæquilateral; posterior side a little attenuated, acuminated above, smooth, keel-shaped; anterior side rather inflated, a little longer, wide, rounded at the end, sculptured with very small obliquely concentric striæ.

CHEMNITZ. Conch., vii., Pl. 194, *f.* 541. "Arca lævigata pellucida Nicobarica."

Hab. Nicobar Island.

The anterior side is a very little longer than the posterior, which latter is a little pointed, and is destitute of the close striæ by which the anterior is sculptured.

Species 7. (Mus. Brit.)

YOLDIA LEPIDULA. *Yol. testâ ovato-subrhomboideâ, partim striata albo-lutescenti; latere postico paulo longiore, suprà subacuminato, infrà obliquè subtruncato, lævigato, lunulâ compressâ, distinctâ, elongatâ; latere antico breviore, striato, ad terminum vix acuminato.*

THE SMART LITTLE YOLDIA. Shell ovate, subrhomboidal, partly striated, yellowish white; posterior side a little longer, slightly acuminated above, obliquely subtruncated beneath, smooth, lunule compressed, distinct, elongated; anterior side shorter, striated, very little acuminated at the end.

A. ADAMS. (*Yoldia.*) Proc. Zool. Soc., 1856, p. 50.

Hab. Borneo.

Species 8. (Mus. Cum. in Brit.)

YOLDIA JAPONICA. *Yol. testâ subovatâ, subæquilaterali, pallidâ; latere postico longiùsculo, subarcuato, subacuminato, margine dorsali depresso, lunulâ angustâ acutè definitâ; margine ventrali medio rectiùsculo, utrinque valdè sursùm acclivi; latere antico breviùsculo, subacuminatim producto.*

THE JAPAN YOLDIA. Shell subovate, subæquilateral, pale; posterior side a little longer, a little arched, subacuminate; dorsal margin depressed, lunule narrow, sharply defined; ventral margin nearly straight in the middle, much sloped upwards at both ends; anterior side rather shorter, subacuminately produced.

ADAMS AND REEVE (*Nucula*). Zool. Samarang, Mollusca, 75, Pl. 21, *f.* 9.

Hab. Japan.

This species is peculiarly curved upwards at the ends.

Species 9. (Fig. *a*, *b*, Mus. Brit.)

YOLDIA MYALIS. *Yol. testâ ovatâ, valdè inæquilaterali, latâ, convexâ, epidermide fusco, nitido, olivaceo, zonis saturatioribus indutâ, latere postico brevè, acuminato, areâ dorsali impressâ, haud circumscriptâ, margine dorsali declivi, depresso, ad terminum breviter truncato, margine ventrali arcuatim, sursùm acclivi; latere antico producto, versùs terminum subattenuato.*

MYAL'S YOLDIA. Shell ovate, very inæquilateral, broad, convex, covered with a brown, shining, olivaceous epidermis with deeper bands, posterior side short, acuminated, dorsal area impressed not defined; margin sloped, with a short truncation at the end; ventral margin sloped upwards in a curve; anterior side produced, a little attenuate towards the end.

COUTHOY (*Nucula*). Bost. Journ. Nat. Hist., ii, p. 62. Pl. 3, *f.* 219.

Hab. Singapore. Philippine Islands.

Species 10. (Fig. *a*, *b*, Mus. Sowerby.)

YOLDIA OBTUSA. *Yol. testâ oblongâ, compressâ, valdè inæquilaterali; epidermide nitenti olivaceo-lutescenti indutâ; latere postico brevi, retuso, termino elevato, subacuminato, margine ventrali propè terminum acclivi, vix contracto; latere antico elongato.*

THE OBTUSE YOLDIA. Shell oblong, compressed, very inæquilateral, covered with a shining yellowish-olive epidermis; posterior side short, retuse, with the end elevated, subacuminated, ventral margin sloped upward, scarcely contracted, anterior side elongated.

SOWERBY.

Hab. ——?

More narrow in proportion to its length than *Yoldia Myalis*; the posterior side still shorter and narrower than in that species, with the end less truncated.

11.

12. a.

12. b.

13.

14. a.

14. b.

15.

Sowerby, del et lith.

Vincent Brooks, Day & Son, Imp.

YOLDIA.

PLATE III.

Species 11. (Mus. Brit.)

YOLDIA LANCEOLATA. *Yol. testâ crassâ, subventricosâ, oblongo-sublanceolatâ, subcompressâ, sulcis arcuatis obliquis, subdistantibus anticè et medio sculptâ, epidermide valido indutâ; latere postico breviùsculo, margine dorsali declivi, termino latè truncato, areâ rostrali lævigatâ, leviter radiatim angulatâ; latere antico ad terminum rotundo.*

THE LANCEOLATE YOLDIA. Shell thick, subventricose, oblong-sublanceolate, subcompressed, sculptured with curved, oblique, rather distant sulci in front and in the middle, covered with a strong epidermis; posterior side rather short, dorsal margin sloped, end widely truncated, rostral area smooth, slightly radiately angular; anterior side rounded at the end.

SOWERBY. Mineral Conchology, Plate 180, f. 1. (fossil).
Nucula arctica, Broderip and Sowerby.
Nucula œolica, Valenciennes.
Hab. Kamtschatka.

The *Nucula lanceolata* of the Conchological Illustrations, now *Læda Sowerbiana* of D'Orbigny, is quite a distinct shell from this, which was first figured and described from a fossil specimen.

Species 12. (Fig. *a*, *b*, Mus. Brit.)

YOLDIA GLACIALIS. *Yol. testâ oblongo-subquadratâ, tenui, ventricosâ, epidermide olivaceo aut fusco-nigricanti indutâ; latere postico latè angulato, supernè acuminato, margine ventrali ad terminum obliquè truncato; margine dorsali subconcavo, depresso; umbonibus rotundis, elevatis, margine ventrali medio rectiùsculo; latere antico brevi, subrotundo.*

THE GLACIAL YOLDIA. Shell oblong-subquadrate, thin, ventricose, covered with an olive or blackish-brown epidermis; posterior side widely angular, acuminated above, ventral margin obliquely truncated at the end, dorsal margin slightly concave, depressed; umboes rounded, elevated, ventral margin rather straight in the middle; anterior side short, rather rounded.

GRAY. Annals of Philosophy, 1825.
Nucula truncata, Brown.
Nucula Portlandica, Hitchcock.
Nucula siliqua, Reeve.
Hab. Arctic Ocean.

Species 13. (Mus. Brit.)

YOLDIA LIMATULA. *Yol. testâ oblongo-lanceolatâ, compressâ, epidermide lævigato, olivaceo indutâ; latere postico subarcuato, subrostrato, margine dorsali depresso, areâ definitâ, termino truncato; margine ventrali sursùm acclivi; umbonibus haud prominentibus, margine ventrali æqualiter convexo; latere antico subrotundo.*

THE POLISHED YOLDIA. Shell oblong-lanceolate, compressed, covered with a smooth olive-green epidermis; posterior side a little arched, subrostrated, dorsal margin depressed, with defined area, end truncated; ventral margin sloped upwards; umboes not prominent, ventral margin equally convex; anterior side rather rounded.

SAY. (Nucula) Amer. Conch., pl. 12.
Hab. Maine and Massachusetts.

Species 14. (Fig. *a*, *b*, Mus. Brit.)

YOLDIA ARCTICA. *Yol. testâ, compressâ, oblongo-lanceolatâ, nitenti, olivaceo, fusco concentricè strigatâ; latere postico subattenuato, margine dorsali depresso, areâ convexiusculâ, definitâ, margine ventrali subitò acclivi, termino truncato; latere antico ad marginem ventralem sinuato; lunulâ convexâ, vix definitâ.*

THE ARCTIC YOLDIA. Shell compressed, oblong-lanceolate, shining, olivaceous, concentrically striped with brown; posterior side a little attenuated, dorsal margin depressed, area a little convex, defined, ventral margin suddenly sloped upwards, end truncated; anterior side sinuated at the ventral margin; lunule convex, scarcely defined.

GRAY. (Nucula) Parry's Voyage, Appendix, p. 241.

Nucula cascoensis, Mighæls.

Nucula Myalis, Hanley.

Yoldia Hyperborea, Torell.

Hab. Spitzbergen.

Species 15. (Mus.——? copied.)

YOLDIA OBESA. *Yol. testâ ventricosâ, latâ, subovatâ, lævigatâ; latere postico majusculo, latè truncato; margine ventrali leviter convexo; latere antico breviùsculo, rotundo.*

THE OBESE YOLDIA. Shell ventricose, broad, subovate, smooth; posterior side rather the larger, widely truncated; ventral margin slightly convex; anterior side rather short, rounded.

STIMPSON. Shells of New England.

Hab. North America.

I do not observe any specimen of this in the British Museum.

16.

17. a.

17. b.

18.

19. a.

19. b.

20. a.

21. a.

21. b.

20. b.

YOLDIA.

PLATE IV.

Species 16. (Mus. Torell? copied.)

YOLDIA FRIGIDA. *Yol. testâ breviter ovato-subrotundâ, minutâ, tenui, straminea, nitidâ, concentricè striatâ; latere postico angulato, post angulum latè truncato, margine dorsali brevissimo, cuneato, convexè subarcuato; umbonibus elevatis, margine ventrali semilunari; latere antico subrotundo, margine dorsali declivi.*

THE FRIGID YOLDIA. Shell shortly rather rounded ovate, minute, thin, straw-coloured, shining, concentrically striated; posterior side angular, widely truncate behind the angle, dorsal margin very short, cuneate, convexly slightly arched; umboes elevated, ventral margin semilunar; anterior side somewhat rounded, dorsal margin sloped.

TORELL. Spitzbergen Mollusca, p. 148, pl. i. f. 3.

Hab. Spitzbergen.

This little shell is the most orbicular in form of all the species.

Species 17. (Mus Brit.)

YOLDIA LUCIDA. *Yol. testâ parvâ, ovatâ, tenui, lævigatâ, subventricosâ, subæquilaterali, semipellucidâ, pallidè straminea, strigis concentricis cæruleis fasciatâ; latere postico subacuminato, areâ dorsali depressâ, vix definitâ; latere antico subrotundo, margine dorsali declivi.*

THE LUCID YOLDIA. Shell small, ovate, thin, smooth, subventricose, subequilateral, semipellucid, pale straw, banded with concentric bluish stripes; posterior side slightly acuminated, dorsal area depressed, very little defined; anterior side somewhat rounded, dorsal margin sloped.

LOVEN. Index Moll. Scandinav., p. 34.

Hab. North Europe.

Species 18. (Mus. Brit.)

YOLDIA SAPOTILLA. *Yol. testâ ovatâ, latâ, compressâ, nitenti, olivaceâ, margine ventrali semilunari; latere postico breviusculo, sursùm subarcuato, acuminato, margine dorsali depresso, areâ definitâ.*

THE SOAPY YOLDIA. Shell ovate, broad, compressed, shining, olive, ventral margin semilunar; posterior side rather short, slightly arched upwards, acuminated, dorsal margin depressed, area defined.

GOULD. Invertebrata of Massachusetts, p. 100, f. 61.

Hab. Massachusetts.

The nearest ally of this species is *Yoldia arctica*, than which it is deeper, and has the ventral margin more regularly semilunar.

Species 19. (Fig. *a*, *b*, Mus. Brit.)

YOLDIA PYGMÆA. *Yol. testâ parvâ, tenui, ventricosissimâ, olivaceo-fuscâ, lævigatâ; latere postico subattenuato, ad terminum rotundato; umbonibus rotundatis, elevatis, margine ventrali convexo; latere antico breviusculo, margine dorsali declivi.*

THE PYGMY YOLDIA. Shell small, thin, very ventricose, olive-brown, smooth; posterior side somewhat attenuated, rounded at the end; umboes rounded, elevated, ventral margin convex; anterior side rather short, dorsal margin sloped.

MUNSTER. (Nucula) Philippi Moll. Sic. (fossil.)

Lœda lenticulus, Müller.

Lœda tenuis, Jeffreys.

Hab. Britain. N. Europe.

This minute shell is more ventricose, and has larger umboes than *Yoldia lucida*.

Species 20. (Fig. *a*, *b*, Mus. Brit.)

YOLDIA JAPONICA. *Yol. testâ oblongâ, subarcuatâ, pallidâ, lævigatâ; latere postico angustiori, supernè obtusè-acuminato, margine ventrali subito sursùm acclivi, margine dorsali depresso, areâ impressâ definitâ; latere antico subrotundo, margine dorsali declivi.*

THE JAPAN YOLDIA. Shell oblong, a little arched, pale, smooth; posterior side narrower, obtusely acuminated above; ventral margin suddenly sloped upwards; dorsal margin depressed, impressed area defined; anterior side roundish, dorsal margin sloped.

ADAMS AND REEVE. Zool. Samarang. Mol., 75; pl. 21, f. 9.

Hab. Japan.

Species 21. (Fig. *a*, *b*, Mus. —— ? copied.)

YOLDIA RETUSA. *Yol. testâ parvâ, albâ, subventricosâ, æquilaterali; latere postico sursùm arcuato, margine terminali sub-truncato, margine dorsali depresso, concavo, margine ventrâli valde convexo.*

THE RETUSE YOLDIA. Shell small, white, subventricose, equilateral; posterior side curved upwards, terminal margin subtruncated, dorsal margin depressed, concave, ventral margin very convex.

HINDS. (Nucula) Proc. Zool. Soc., 1843, p. 99.

Hab. Straits of Malacca. Philippines.

A very small white shell with a slight upward curve.

22.

23. a.

23. b.

24.

25. a.

25. b.

26.

27

28

10. b.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

YOLDIA.

PLATE V.

Figs. 10, *b*, a small pallid variety of YOLDIA OBTUSA, *Sowb.*, see Plate II.

Species 22. (Mus. ——? copied.)

YOLDIA ABYSSICOLA. *Yol. testâ fuscâ, parvâ, ovato-subtrigonâ; latere postico subacuminato, angulato, areâ postangulari depressâ, termino truncato, margine dorsali declivi; umbonibus acuminatim elevatis; margine ventrali semilunari, latere antico breviùsculo, rotundo.*

THE DEEP-SEA YOLDIA. Shell brown, small, ovate-subtrigonal; posterior side subacuminate, angular, postangular area depressed, end truncated, dorsal margin sloped; umboes acuminately elevated; ventral margin semilunar, anterior side rather short, rounded.

TORELL. Spitzbergen Moll., p. 149, pl. 1, f. 4.

Species 23. (Fig. *a*, *b*, Mus. Brit.)

YOLDIA SPLENDIDULA. *Yol. testâ minutâ, subovatâ, lævigatâ, parvâ, nitenti, fasciis concentricis strigatâ; latere postico declivi, truncato, producto; latere antico breviùsculo, margine dorsali declivi.*

THE SPLENDID YOLDIA. Shell minute, subovate, smooth, small, shining, striped with concentric bands; posterior side sloped, truncated, produced; anterior side rather short, dorsal margin sloped.

A. ADAMS. MS. in Cum. Coll.

Hab. ——?

A pretty little species, more trigonal and less curved upwards than *Yoldia lucida*.

Species 24. (Mus. Brit.)

YOLDIA ABBREVIATA. *Yol. testâ inæqualiter subtrigonâ, compressâ, latâ, brevi, lævigatâ; latere postico brevi, subacuminato, margine dorsali valdè declivi, areâ definitâ; termino truncato; latere antico obliquè subrotundato, margine dorsali declivi, umbonibus elevatis.*

THE ABBREVIATED YOLDIA. Shell inequilateral, subtrigonal, compressed, broad, short, smooth; posterior side short, subacuminated, dorsal margin much sloped, area defined; end truncated; anterior side obliquely subrotund, dorsal margin sloped, umboes elevated.

SOWERBY.

Hab. Falkland Islands.

This shell seems to me to be wrongly referred to *Yoldia Woodwardi*.

Species 25. (Fig. *a*, *b*, Mus. Taylor.)

YOLDIA LABIATA. *Yol. testâ sublanceolatâ, tenui, stramineâ, nitenti, compressâ, medio radiatim unisulcatâ; latere postico subacuminato, margine ventrali sursùm acclivi, termino truncato, margine dorsali compresso, convexè labiato; latere antico subrotundo, margine dorsali subcompresso, convexo.*

THE LIPPED YOLDIA. Shell a little lanceolate, thin, straw-coloured, shining, compressed, with a radiating sulcus in the middle: posterior side subacuminated, ventral margin sloped upwards, end truncated, dorsal margin compressed, convexly lipped; anterior side a little rounded, dorsal margin subcompressed, convex.

SOWERBY.

Hab. ——?

This species is distinguished by the somewhat convex prominence of the dorsal margin, and I think also that the radiating groove in the centre of each valve is so exactly alike in the only two specimens I have seen as to discredit the idea of its being accidental.

Species 26. (Mus. Brit.)

YOLDIA EIGHTSI. *Yol. testâ ovatâ, latâ, crassâ, epidermide olivaceo-nigrescenti lævigato indutâ, inæquilaterali; latere postico brevi, obtusè truncato, margine dorsali concavo-depresso, areâ definitâ; umbonibus subretrorsis, margine ventrali semilunulâ; latere antico producto, margine dorsali convexo-declivi.*

EIGHT'S YOLDIA. Shell ovate, broad, thick, covered with a blackish olive smooth epidermis, inequilateral, posterior side short, obtusely truncated, dorsal margin concave-depressed, area defined; umboes turned slightly backwards; ventral margin

semilunar; anterior side produced, dorsal margin convexly sloped.

COUTHOY. Jay's Catalogue of Shells.

Hab. Shetland Islands.

Species 27. (Mus. —— ? copied.)

YOLDIA SULCIFERA. *Yol. testâ parvâ, straminea, subovatâ, costellis paucis rotundis concentricis liratâ; latere postico acuminato, margine dorsali depresso, areâ lævigatâ; latere antico rotundo.*

THE GROOVED YOLDIA. Shell small, straw-coloured, subovate, ridged with few rounded concentric ribs; posterior side acuminated, dorsal margin depressed, area smooth; anterior side rounded.

REEVE. Belcher's last Arctic Voyage, p. 397.

Hab. —— ?

This little shell has the largest concentric ridges of any species.

Species 28. (Mus. Dekay ?)

YOLDIA GOULDII. *Yol. testâ ovato-subtrigonâ, straminea, latâ, brevi, subæquilaterali, tenuiter concentricè rugatâ; latere postico angulato, cuneato, areâ postangulari angustâ, declivi; latere antico brevi, subrotundo, margine dorsali subconcavo.*

GOULD'S YOLDIA. Shell ovate-subtrigonal, straw-coloured, broad, short, subequilateral, finely concentrically wrinkled; posterior side angular, cuneate, postangular area narrow, sloped, rather rounded, dorsal margin rather concave.

DEKAY. (Nucula) New York Mollusca, p. 180, f. 221.

Hab. North America.

Of a subtrigonal, mactra-like form, unlike the other species.

YOLDIA.

	Plate.	Species.
abbreviata, *Sowerby*	V.	24
abyssicola, *Torell*	V.	22
æolica, Valenciennes	III.	11
amygdala, *Valenc.*	I.	3
angularis, Möller	I.	1
arctica, Broderip	III.	11
arctica, *Gray*	III.	14
Cascoensis, Mighæls	III.	14
Eightsi, *Couthoy*	V.	26
frigida, *Torell*	IV.	16
glacialis, *Gray*	III.	12
Gouldii, *Dekay*	V.	28
hyperborea, Torell	III.	14
Japonica, *Ad. and Reeve*	II.	8
Japonica, *Ad. and Reeve*	IV.	20
labiata, *Sowerby*	V.	25
lanceolata, *Sowerby, J.*	III.	11
laternaria, Valenciennes	I.	1
lenticulus, Müll.	IV.	19
lepidula, *A. Adams*	II.	7
limatula, *Say*	III.	13
lucida, *Loven*	IV.	17
Mulleria, Gray	I.	1
Myalis, *Couthoy*	II.	9
Myalis, Hanley	III.	14
Nicobarica, *Chemnitz*	II.	6
obesa, *Stimpson*	III.	15
obtusa, *Sowerby*	II	10
Portlandica, Hitchcock	III.	12
pygmæa, *Munster*	IV.	19
retusa, *Hinds*	IV.	21
sapotilla, *Gould*	IV.	18
serotina, *A. Adams*	II.	5
siliqua, Reeve	III.	12
splendidula, *A. Adams*	V.	23
sulcifera, *Couthoy*	V.	24
sulcifera, *Reeve*	V.	27
tenella, *Hinds*	II.	4
tenuis, Jeffreys	IV.	19
Thraciæformis, *Storer*	I.	1
truncata, Brown	III.	12
Woodwardi, *Hanley*	I.	2

MONOGRAPH

OF THE GENUS

LÆDA.

"The ample sea, in whose unfathom'd deep
Innumerable sorts of creatures creep."—*George Sandys.*

1.a.

2.a.

2.b.

1.b.

3.a.

3.b.

4.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

LÆDA.

PLATE I.

Genus LÆDA, *Schumacher.*

Testa bimusculosa, æquivalvis, oblonga, plus minusve cuneiformis, clausa, postice producta et attenuata, intùs nacrea; margine cardinali angulato, dentibus utrinque numerosis, acutis; ligamento interno.

Shell bimuscular, equivalve, oblong, more or less cuneiform, closed, produced and attenuated posteriorly, pearly within; hinge margin angular, teeth numerous and acute on both sides; ligaments internal.

Genus *Lembulus*, Risso.

The shells of this genus are fairly enough distinguishable from those of the genus NUCULA on one hand and from the YOLDIÆ on the other; from the former by the angular production of the hinder side of the shell, and from the latter in having the shell closed all round, and the hinder part being attenuated and beaked, which *Yoldia* is not.

The very elongate and lanceolate forms such as *elongata* and *tellinoides* have been separated under the name ADRANCO as presenting an appearance not much akin to such shells as *Læda pernula* and *Læda polita*, but in such species as *Læda decora* and *Læda polita* we observe a manifest gradation between the two groups.

LÆDA, like its generic ally, may be reckoned among the most widely distributed genera, considering the comparatively small number of its species, which are found not only in northern seas such as those coasting Siberia and Great Britain, but in Australia in the south, and from the Cape of Good Hope upwards. Some are found in Japan and others in the West Indies.

Species 1. (Fig. *a*, *b*, Mus. Brit.)

LÆDA SOWERBYANA. *Læd. testâ, elongatâ, eleganter lanceolatâ, compressâ, subæquilaterali, albidâ, semipellucidâ, obliquè striatâ, utrinque acutè rostratâ, medio depressâ, margine dorsali utrinque recto, areâ compressâ marginato; margine ventrali utrinque versùs terminos concavo, medio convexo; termino anticò subtruncato, postico subacuminato.*

SOWERBY'S LÆDA. Shell elongated, elegantly lanceolate, compressed, subequilateral, whitish, semipellucid; obliquely striated, acutely rostrated at both ends, depressed in the middle; dorsal margin straight, on both sides bordered with a compressed area; ventral margin concave on each side towards the ends, convex in the middle; anterior termination subtruncated, posterior subacuminated.

D'ORBIGNY, as per Hanley. Nuculidæ in Sowerby's Thesaurus. Læda. No. 33.

Nucula lanceolata. Sowerby in Con. Ill., not J. Sowerby nor Lamarck.

Nucula elongata. Valenciennes.

Hab. Xipixapi.

Of a more elegantly lanceolate and attenuated form than *Lœda elongata.*

Species 2. (Fig. *a*, *b*, Mus. Brit.)

LÆDA ELECTA. *Læd. testâ solidiusculâ, elongato-lanceolatâ, subæquilateralis, compressâ, albidâ, obliquè striatâ, utrinque rostratâ, rostro postico angulato, obliquè truncato, margine crenulato, areâ dorsali depressâ, leviter arcuatâ.*

THE CHOSEN LÆDA. Shell rather solid, elongato-lanceolate, subequilateral, compressed, whitish, obliquely striated, rostrated at each end, posterior rostrum angular, obliquely truncated, margin crenulated, dorsal area depressed, slightly arched.

A. ADAMS. Proc. Zool. Soc., 1856, p. 48.

Hab. Santos, Brazil.

Species 3. (Fig. *a*, *b*, Mus. Brit.)

LÆDA GLORIOSA. *Læd. testâ oblongo-lanceolatâ, albidâ, solidiusculâ, inæquilaterali; latere postico attenuato, elongato, compresso, rostrato, ad terminum subrotundato; latere antico ventricoso, latiusculo, ad marginem dorsalem concentricè rugato.*

THE GLORIOUS LÆDA. Shell oblong-lanceolate, whitish, rather solid, inequilateral; posterior side attenuated, elongated, compressed, rostrated, rather rounded at the end, concentrically wrinkled at dorsal margin.

A. ADAMS. (Yoldia) Proc. Zool. Soc., 1855, p. 226.

Hab. Singapore.

With the general form of the lanceolate group this species combines a certain inequality of sides, the posterior being elongated and tapering, and the anterior swelled and broad.

Species 4. (Mus. Brit.)

LÆDA ELONGATA. *Læd. testâ lanceolatâ, compressâ, subæquilaterali, obliquè striatâ, epidermide valido indutâ, utrinque subrostratâ, rostris obtusis, margine ventrali prope terminos vix concavo; margine dorsali utrinque recto, areis dorsalibus lævigatis subdepressis.*

THE ELONGATED LÆDA. Shell lanceolate, compressed, subequilateral, obliquely striated, covered with a strong epidermis, subrostrated at each end; beaks obtuse, ventral margin scarcely concave near the ends; dorsal margin straight on both sides; dorsal areas smooth, subdepressed.

SOWERBY. Proc. Zool. Soc., 1832, p. 197.

Hab. Salango, West Columbia.

The concavity in the ventral margin is not nearly so conspicuous in this species as in the more gracefully-formed *Læda Sowerbiana*.

5.a.

6.a.

6. b.

5. b.

7. a.

7. b.

5. c.

8. a.

8. b.

9.

LÆDA.

PLATE II.

Species 5. (Fig. *a*, *b*, *c*, Mus, Sowerby.)

LÆDA PERNULA. *Læd. testâ oblongâ, rostratâ, crassâ, olivaceâ, striis elevatis concentricis numerosis, medio densioribus, anticè radiatim interruptis sculptâ; latere postico subarcuatim rostrato, obscurè bicostato, ad terminum breviter truncato, margine dorsali depresso, areâ circumscriptâ; medio inflate, apice obtuso; latere postico breviusculo, obscurè uniradiato, subacuminatim rotundato.*

THE LITTLE PERNA LÆDA. Shell oblong, rostrate, thick, olivaceous, sculptured with numerous raised concentric striæ, more dense in the middle and slightly interrupted anteriorly; posterior side rostrated with a slight curve, with two obscure ribs, shortly truncated at the end, dorsal margin depressed, area circumscribed, inflated in the middle, apex obtuse; posterior side rather short, with an obscure ray, subacuminately rounded.

MÜLLER (Arca). Beschäft. Naturf. Berlin, iv. 55, 57.
Arca fluviatilis. Schrœter.
Arca Martini. Chemnitz.
Nucula elongata. Dandin.
Læda macilenta. Steenstrüp.
Hab. Boreal Seas.

The shorter variety is also generally smoother.

Species 6. (Fig. *a*, *b*., Mus. Cum. in Brit.)

LÆDA CÆLATA. *Læd. testâ ovato-acuminatâ, olivaceâ, obliquè subconcentricè sulcatâ; latere postico breviore, rostrato, acuminato, unicostato, ad terminum brevissimè truncato, margine dorsali depresso, declivi, areâ planulatâ, latâ; latere antico producto, ad terminum rotundo.*

THE ENGRAVED LÆDA. Shell ovately acuminated, olive, obliquely subconcentrically sulcated; posterior side shorter, rostrated, acuminated, with a single rib, very shortly truncated at the end, dorsal margin depressed, sloped downwards, area flattened, broad; anterior side produced, rounded at the end.

HINDS. (Nucula). Proc. Zool. Soc., 1843, p. 99.
Hab. California.

The striæ are not absolutely concentric, but slope a little downwards towards the hinder end.

Species 7. (Fig. *a*, *b*, Mus. Brit.)

LÆDA BUCCATA. *Læd. testâ crassâ, latâ, oblongo, subarcuato, subconcentricè, sulcatâ, inæquilaterali; latere postico subattenuato, rostrato, obscurissimè bicostato, costis lævigatis, ad terminum obliquè truncato; latere antico breviusculo, inflato, subrotundo.*

THE BLOWN-OUT LÆDA. Shell thick, broad, oblong, somewhat arched, nearly concentrically sulcated, inæquilateral; posterior side rather attenuated, beaked, with two very obscure smooth ribs, obliquely truncated at the end; anterior side rather short, inflated, rather rounded.

STEENSTRÜP, in Möller Fauna Grœnlandica.
Hab. Greenland.

Strongly resembling *Læda pernula*, but a stouter, more inflated, and deeper shell.

Species 8. (Fig. *a*, *b*, Mus. Sowerby.)

LÆDA BICUSPIDATA. *Læda testâ subrhombodieâ, oblongâ, inflatâ, solidâ, albâ, inæquilaterali, latere postico oblongo, subattenuato, angulato, ad angulum subexcavato et spinoso, post angulum areâ excavatâ, ad terminum emarginatâ, suprà aream ad marginem dorsalem bicarinato, carinis spinosis; medio obliquè sulcato; latere postico bicostato, inter costas et ad marginem terminalem excentricè sulcato.*

THE TWO-POINTED LÆDA. Shell subrhomboidal, oblong, inflated, solid, white, inæquilateral, posterior side oblong, a little attenuated, angulated, subexcavated and spinose at the angle, with an excavated area behind the angle, emarginated at the end; above the area at the dorsal margin two-keeled, keels spinose; middle obliquely sulcated, posterior side two-ribbed, between the ribs and at the terminal margin excentrically sulcated.

GOULD (Nucula). Boston Journal of Natural History.
Læda largillierti, Philippi.
Læda peicifera, A. Adams.

The sculpture of this little Læda is exquisite.

Species 9. (Mus. Sowerby.)

LÆDA DISSIMILIS. *Læd. testâ albidâ, ovatâ, tenuiter subconcentricè sulcatâ, subæquilaterali, subarcuatâ, æqualiter inflatâ; latere postico acuminato, vix costato, margine dorsali depresso, aretâ circumscriptâ; margine ventrali semilunari; latere antico subrotundo.*

THE DISSIMILAR LÆDA. Shell whitish, ovate, finely subconcentrically sulcated, subæquilateral, a little arched, equally inflated; posterior side acuminated, scarcely costated, dorsal margin depressed, with circumscribed area; ventral margin semilunar; anterior side rather rounded.

SOWERBY.

Hab. ——?

The comparison for this species is in *Læda cœlata*, but our shell is more ovate, more evenly ventricose, more pointed, less beaked, and not ribbed.

10.

11.a.

11.b.

12.

13 a

13.b.

14.

15.a.

15.b.

16.

LÆDA.

PLATE III.

Species 10. (Mus. Brit.)

LÆDA TENUICOSTATA. *Læd. testâ cuneiformi, oblongâ, rostratâ, angustatâ, latere antico brevi, margine dorsali lævigato, medio costellato margine ventrali leviter arcuato; latere postico elongato, angustato, areâ dorsali depressâ, lævigatâ, termino rostrato, truncato.*

THE FINE-RIBBED LÆDA. Shell cuneiform, oblong, rostrated, narrowed, anterior side short, with smooth dorsal margin; middle costellated ventral margin slightly arched; posterior side elongated, narrow, with depressed smooth dorsal margin, end rostrated, truncate.

COUTHOY. Bod. Journ. Nat. Hist. vol. ii. 64, pl. 18, f. 16.

Nucula minuta, Gould (not Fabricius).

Hab. N. America.

Resembling *Læda Pernula* in form, but finely ribbed in the central area.

Species 11. (Fig. *a*, *b*, Mus. Brit.)

LÆDA MINUTA. *Læd. testâ brevi, crassâ, ventricosâ, epidermide crasso obscurè olivaceo indutâ, tenuiter liratâ; latere antico breviusculo, liris magis conspicuis; latere postico subrostrato, truncato, areâ dorsali latâ, planâ, circumscriptâ.*

THE MINUTE LÆDA. Shell short, thick, ventricose, covered with a thick dull olive epidermis, finely ridged; anterior side rather short with the ridges more prominent; posterior side somewhat beaked, truncated, dorsal area wide, flat, circumscribed.

MULLER. Zool. Danic. 2985.

Mya Greenlandica, Chemn.

Nucula parva, Sows.

Nucula complanata, Möller.

Hab. Greenland.

Species 12. (Mus. Brit.)

LÆDA PATAGONICA. *Læd. testâ elongato-angustatâ, rostratâ, arcuatâ, valdè compressâ, pallide subflavido-roseâ, longitudinaliter striatâ, subæquilaterali: latere antico rotundo-acuminato, margine dorsali elevato; latere postico rostrato, ad terminum obliquè truncato, margine dorsali arcuatim depresso; margine ventrali æqualiter arcuato.*

THE PATAGONIAN LÆDA. Shell elongately-narrowed, beaked, arched, much compressed, pale yellowish rose, longitudinally striated, nearly equilateral; anterior side roundly acuminated, with dorsal margin elevated, posterior side beaked, with dorsal margin depressed in a curve, ventral margin equally arched.

D'ORBIGNY. Amér. Mérid., p. 544, pl. 82.

Hab. West Indies.

I cannot concur with Mr. Hanley in treating the very different looking shells figured in Thesaurus Conchyliorum under this name, as the same species. I have therefore separated his Fig. 51-2, under the title of *L. planulata*.

Species 13. (Mus. Brit.)

LÆDA DECORA. *Læd. testâ solidâ, subcompressâ, subangustè oblongo-rostratâ, albidâ, liris tenuibus concentricis sculptâ; latere antico breviusculo, liris magis elevatis; latere antico rostrato, biangulato, ad terminum acuminatim truncato, margine dorsali crenato, areâ depressâ planulatâ marginato; margine ventrali medio rectiusculo.*

THE DECOROUS LÆDA. Shell solid, subcompressed, rather narrowly oblong-rostrated; rather white, sculptured with fine concentric ridges; anterior side beaked, biangulated, acuminately truncated

at the end, dorsal margin crenated, bordered with a flat depressed area; ventral margin rather straight in the middle.

A. ADAMS. Proc. Zool. Soc., 1856, p. 50.

Hab. West Indies.

A much more tumid and solid shell than *L. crenifera*, which it slightly resembles.

Species 14. (Mus. Brit.)

LÆDA TELLINOIDES. *Læd. testâ latè lanceolatâ, albâ, valdè compressâ, subæquilaterali, anticè et medio obliquè et undulatim striatâ, utrinque subrostratâ, terminibus rotundatim acuminatis, margine ventrali, valdè convexo, versus terminos excavato, margine dorsali rectiusculo, latere postico angustiusculo.*

THE TELLINA-SHAPED LÆDA. Shell widely lanceolate, white, much compressed, subequilateral, anteriorly and in the centre obliquely and undulately striated, subrostrated at each end, the ends roundly acuminated, ventral margin very convex, excavated towards the ends; dorsal margin rather straight, posterior side rather narrow.

SOWERBY. Genera of Shells, Tellina, fig. 2.

Hab. Cumana.

Remarkable for the very arched form of the ventral margin in the centre.

Species 15. (Fig. *a*, *b*, Mus. Cum. in Brit.)

LÆDA CONCINNA. *Læd. testâ lanceolato-cuneiformi, compressâ, concentricè liratâ, epidermide corneo indutâ; latere antico breviusculo, margine dorsali rectiusculo, cuneato; latere postico anguste rostrato, producto, ad terminum angustè truncato, rostro costellis monili-formibus duabus obliquis marginato.*

THE NEAT LÆDA. Shell lanceolately cuneiform, compressed, concentrically ridged, covered with a horny epidermis; anterior side rather short, dorsal margin rather straight, cuneated; posterior side narrowly beaked, produced, narrowly truncated at the end, beak bordered with two bead-like oblique little ribs.

A. ADAMS. Proc. Zool. Soc., 1856, p. 48.

Hab. New Zealand.

Species 16. (Mus. Cum. in Brit.)

LÆDA POLITA. *Læd. oblongo-pyriformi, lævigatâ, perobliquè undulatim striatâ, epidermide polito viridi indutâ; latere antico valdè inflato, rotundo; latere postico cuneato, acuminato, angusto, rostrato, ad rostrum haud striato, margine ventrali sursum acclivi; margine dorsali depresso, marginibus suberectis.*

THE POLISHED LÆDA. Shell oblong-pyriform, smooth, very obliquely, undulately striated; covered with polished green epidermis, anterior side much inflated, rounded; posterior side cuneate, acuminated, narrow, beaked, not striated at the beak, ventral margin sloped upwards, dorsal margin depressed, with the margins rather erect.

SOWERBY (*Nucula*). Proc. Zool. Soc., 1832, p. 198.

Hab. Panama.

A very beautiful inflated pear-shaped species.

17.

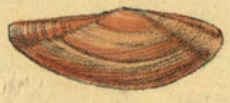
18.

19.

20.

21. a.

21. b.



22. a.

23.

24.

22. b.

Sowerby, del. et lith.

Vincent Brooks, Day & Son Imp.

LÆDA.

PLATE IV.

Species 17. (Mus. Cuming in Brit.)

LÆDA TAYLORI. *Læd. testâ albâ, lanceolatâ, compressâ, tenui, fere omnino obliquè striatâ; latere antico rostrato, angusto, acuminato, prope marginem dorsalem conspicuè lirato, margine dorsali rectiusculo, margine ventrali versus terminum excavato, medio valdè convexo; latere postico longiusculo, margine dorsali leviter arcuato, subdepresso, vix crenulato, ad terminum acuminato, margine ventrali sursum acclivi.*

TAYLOR'S LÆDA. Shell white, lanceolate, compressed, thin, nearly all over obliquely striated; anterior side beaked, narrow, acuminated, conspicuously lirated near the dorsal margin; dorsal margin rather straight; ventral margin excavated towards the end, very convex in the middle; posterior side rather longer, with dorsal margin slightly arched, rather depressed, scarcely crenulated, acuminated at the end, ventral margin sloped upwards.

HANLEY. Proc. Zool. Soc., 1860.

Nucula lanceolata, Lamarck (not J. Sowerby).

Hab. Guatemala.

One of the thin lanceolate species, with the ventral margin excavated at the anterior side.

Species 18. (Mus. Cuming in Brit.)

LÆDA METCALFEI. *Læd. testâ albâ, tenui, lanceolatâ, compressâ, obliquè striatâ; latere antico subinflato, breviusculo, prope marginem conspicuè rugato, obliquè depresso, margine ventrali convexo; latere postico elongato, angusto, ad terminum acuminato, ad angulum marginis dorsalis crenulato.*

METCALFE'S LÆDA. Shell white, thin, lanceolate, compressed, obliquely striated; anterior side a little inflated, rather short, near the margin conspicuously wrinkled, obliquely depressed, with ventral margin convex; posterior side elongated, narrow, acuminated at the end, crenulated at the angle of the dorsal margin.

HANLEY. Proc. Zool. Soc., 1870.

Nucula crenifera, Hanley (not Sowerby).

Hab. Philippines. *Cuming.*

Species 19. (Mus. Brit.)

LÆDA CAUDATA. *Læd. testâ breviter cuneiformi, crassâ, æqualiter concentricè liratâ, epidermide subviridi-fusco indutâ, latere antico brevi, rotundo, inflato; latere postico rostrato, biangulato, producto, subcompresso, ad terminum truncato; umbonibus elevatis.*

THE CAUDAL LÆDA. Shell shortly cuneiform, thick, equally concentrically wrinkled, covered with a greenish-brown epidermis; anterior side short, round, inflated; posterior side rostrated, biangular, produced, rather compressed, truncated at the end, umboes elevated.

DONOVAN (*Arca*). British Shells, pl. 78.

Arca minuta, Montagu.

Nucula rostrata, Sowerby.

Sembulus sulcatus, Leach.

Læda intermedia, Oersted.

Hab. Great Britain. North Europe.

Species 20. (Mus. Taylor.)

LÆDA ARCUATA. *Læd. testâ albâ, tenui, compressâ, elongato-lanceolatâ, subobliquè tenuissimè striatâ; latere antico breviusculo, margine vix declivi, rectiusculo, minutè et acutè crenulato; latere postico angustiusculo acuminato, margine dorsali depresso, minutissimè crenulato, ad terminum elevato; margine ventrali anticè et posticè æqualiter arcuato.*

THE ARCHED LÆDA. Shell white, thin, compressed, elongated, lanceolate, a little obliquely finely striated; anterior side rather short, with the margin scarcely sloped, rather straight, minutely and acutely crenulated, elevated at the end; ventral margin anteriorly and posteriorly equally arched.

SOWERBY.

Hab. ——?

In *Læda Taylori*, which resembles this species, there is a peculiar narrowness and almost a constriction in the ventral margin at the anterior end not observable in *Læda arcuata*.

Species 21. (Fig. *a*, *b*, Mus. Cuming in Brit.)

LÆDA CRENIFERA. *Læd. testâ solidâ, albidâ, compressâ, lanceolato-elongatâ, anticè posticèque tenuiter liratâ, medio lævigatâ, marginibus dorsalibus costatis, crenulatis; latere antico breviusculo, areâ marginali latiusculâ, excavatâ, costâ marginali elevatâ; latere postico longiusculo, margine ventrali medio rectiusculo, utrinque valde sursum acclivi.*

THE CRENIFEROUS LÆDA. Shell solid, whitish, compressed, lanceolately-elongated, anteriorly and posteriorly finely wrinkled, smooth in the middle, dorsal margins ribbed, crenulated; anterior side rather shorter, with marginal area rather broader, excavated; marginal rib raised; posterior side rather longer, ventral margin rather straight in the middle, much sloped upwards at both ends.

SOWERBY (*Nucula*). Proc. Zool. Soc., 1832, p. 197.

Hab. Xipixapi.

Species 22. (Fig. *a*, *b*, Mus. Cuming in Brit.)

LÆDA PLANULATA. *Læd. testâ latè lanceolatâ, subaurantiâ, lævigatâ, compressâ, planulatâ, subæquilaterali; latere antico subacuminatim rotundo; margine ventrali post terminum subexcavato, medio convexo, versus terminum posticum gradatim sursum acclivi; latere postico angustiusculo, acuminato.*

THE PLANULATE LÆDA. Shell broadly lanceolate, rather orange, smooth, compressed, flattened, subequilateral; anterior side rather acuminately rounded; ventral margin behind the end a little excavated, convex in the middle and gradually sloped upwards in reaching the posterior end; posterior side rather narrow, acuminated.

SOWERBY.

Hab. Patagonia.

I find it impossible to assimilate this differently coloured and differently shaped shell to the elegant form of *Læda Patagonica*.

Species 23. (Mus. Metcalfe.)

LÆDA BELCHERI. *Læd. testâ oblongâ, pallidè fulvâ, subconcentricè striatâ, compressâ, latâ; latere antico breviusculo, margine dorsali declivi; latere antico obliquè quadrangulato, ad terminum emarginato, ad angulos lævitèr crenulatim costato; areâ dorsali depressâ, complanatâ.*

BELCHER'S LÆDA. Shell oblong, pale fawn, nearly concentrically striated, compressed, broad; anterior side rather short, dorsal margin sloped; anterior side obliquely quadrangular, emarginated at the end, slightly crenulately ribbed at the angles; dorsal area depressed, flattened.

HINDS. Proc. Zool. Soc., 1843, p. 98.

Hab. Argulhas Bank, Cape of Good Hope. In deep water.

Species 24. (Mus. Cuming in Brit.)

LÆDA COSTELLATA. *Læd. testâ elongato-lanceolatâ, subcuneiformi, distanter concentricè liratâ, epidermide pallido corneo indutâ; latere antico breviusculo, subacuminatim rotundato; latere postico conspicuè rostrato, biangulato, ad terminum truncato, angulis crenulatis.*

THE COSTELLATED LÆDA. Shell elongately-lanceolate, somewhat cuneiform, distantly concentrically ridged, covered with a pale horny epidermis; anterior side narrow, rather short, subacuminately rounded, posterior side conspicuously rostrated, biangular, truncated at the end, with the angles crenulated.

SOWERBY (*Nucula*). Proc. Zool. Soc., 1832.

Hab. Panama.

Very distinct from *Læda pernula* by reason of the distant concentric ridges and distinctly rib-margined beak.

24. bis.

25.

26.

27.

28.

29.

30. a.

31. a.

31. b.

30. b.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

LÆDA.

PLATE V.

Species 24 bis. (Mus. Brit.)

LÆDA CONFUSA. *Læd. testâ ovatâ, compressâ, subæquilaterali, latâ, tenuiter liratâ, epidermide tenui, stramineâ indutâ; latere antico subquadrato, areâ dorsali parvâ definitâ; latere postico breviùsculo, acuminato, margine dorsali declivi, areâ latiùsculâ, costâ rostrali parvâ, acutâ, margine ventrali ad terminum valdè sursùm acclivi.*

THE CONFUSED LÆDA. Shell ovate, compressed, subequilateral, broad, finely lirated, covered with a thin, straw-coloured epidermis; anterior side subquadrate, dorsal area small, defined; posterior side rather short, acuminated, dorsal margin sloped, with rather wide area, rostral rib small, acute, ventral margin much sloped upwards at the end.

HANLEY. Thes. Conch. Nuculidæ, Læda, 26.

Hab. Japan, China seas.

Species 25. (Mus. Brit.)

LÆDA BELLULA. *Læd. testâ oblongâ, acuminatâ, subpyriformi, pallidâ, concentricè liratâ; latere antico rotundè subacuminato; latere postico rostrato, angusto, longiùsculo, acuminato, ante rostrum radiatim depresso, margine dorsali depresso; umbonibus acuminatis.*

THE LITTLE BEAUTIFUL LÆDA. Shell oblong, acuminated, subpyriform, pale, concentrically ridged; anterior side roundly subacuminated, posterior side beaked, narrow, rather long, acuminated, radiately depressed in front of the beak; dorsal margin depressed, umboes acuminated.

A. ADAMS. Proc. Zool. Soc., 1856, p. 49.

Hab. Australia.

A pretty little pyriform species.

Species 26. (Mus. Brit.)

LÆDA FULGIDA. *Læd. testâ oblongo-pyriformi, lævigatâ, epidermide pallidâ indutâ; latere antico ventricoso; latere postico angusto, acuminato, rostrato, costâ rostrali angustâ, lævigatâ, areâ ante rostrum subcoarctatâ, areâ dorsali depressâ.*

THE SHINING LÆDA. Shell oblong-pyriform, smooth, covered with a pale epidermis; anterior side ventricose, posterior side narrow, acuminated, beaked, rostral rib narrow, smooth, area in front of the beak rather contracted, dorsal area depressed.

A. ADAMS. Proc. Zool. Soc., 1832, p. 198.

Hab. Port Essington.

Species 27. (Mus. Brit.)

LÆDA CRASSA. *Læd. testâ solidâ, crassâ, ventricosâ, ovatâ, latâ, arcuatâ, concentricè liris crassis rotundis sculptâ, epidermide fusco-nigrescenti indutâ; latere antico rotundo, margine dorsali declivi; latere postico rostrato arcuatim sursùm acclivi, areâ ante rostrum impressâ, ad marginem ventralem emarginatâ; areâ dorsali magnâ, lanceolatâ, longitudinaliter liratâ.*

THE THICK LÆDA. Shell solid, thick, ventricose, oval, wide, curved, sculptured with concentric thick rounded ridges, covered with a blackish-brown epidermis; anterior side rounded, dorsal margin sloped; posterior side curved upwards, area in front of the beak impressed, emarginated at the ventral margin, dorsal area large, lanceolate, longitudinally ridged.

HINDS. Proc. Zool. Soc., 1843.

Hab. Australia.

This species has a depressed area under the rostrum, which is marked by a notch in the ventral margin.

Species 28. (Mus. Brit.)

LÆDA NASUTA. *Læd. testâ pyriformi, ventricosâ, albâ rostratâ, lævigatâ; latere antico inflato, longius culo, margine dorsali declivi, ventrali convexo latere postico angusto, rostrato, acuminato, costâ*

umbonali latâ, ad terminum obliquè truncato; margine dorsali arcuato, depresso, areâ latâ, planulatâ; umbonibus rotundis.

THE NASAL LÆDA. Shell pyriform, ventricose, white, rostrated, smooth; anterior side inflated, rather lengthened, dorsal margin arched, sloped, ventral convex; posterior side narrow, rostrated, acuminated, umbonal rib wide, obliquely truncated at the end, dorsal margin arched, depressed, area wide, flattened, umboes rounded.

SOWERBY. Con. Illustr.

Hab. East Indies.

Species 29. (Mus. Brit.)

LÆDA EBURNEA. *Læd. testâ subattenuatâ, pyriformi; epidermide pallidâ indutâ, liris concentricis creberrimis sculptâ; latere anticô subobliquè producto, inflato; latere postico acuminato, breviusculo, leviter bicostato, margine dorsali depresso, areâ lævigatâ; umbonibus rotundis.*

THE IVORY LÆDA. Shell slightly attenuated, pyriform, covered with a pale epidermis, sculptured with very close concentric ridges; anterior side rather obliquely produced, inflated; posterior side acuminated, rather short, slightly bicostated, dorsal margin depressed, area smooth; umboes rounded.

SOWERBY. Proc. Zool. Soc., 1832, p. 198.

Nucula lyrata. Hanley.

Hab. Bay of Panama.

Species 30. (Fig. *a*, *b*, Mus. Brit.)

LÆDA VENTRICOSA. *Læd. testâ solidâ, fulvâ, ventricosâ, ovatâ, liris numerosis concentricis æqualibus sculptâ; latere antico lato, tumido; latere postico breviusculo, subrostrato; areis dorsalibus complanatis, vix definitis; umbonibus subacuminatis.*

THE VENTRICOSE LÆDA. Shell solid, fulvous, ventricose, ovate, sculptured with numerous equal concentric ridges; anterior side wide, tumid; posterior side rather short, subrostrated, dorsal areas flattened, scarcely defined; umboes subacuminated.

HINDS. Proc. Zool. Soc., 1843, p. 100.

One of the most solid and ventricose shells of the pyriform group.

Species 31. (Fig. *a*, *b*, Mus. Brit.)

LÆDA FASTIDIOSA. *Læd. testâ parvâ, pyriformi, stramineâ, lævigatâ, nitenti; latere antico breviusculo, rotundato; latere postico attenuato, acuminato, areâ dorsali depressâ, complanatâ, latiusculâ.*

THE FASTIDIOUS LÆDA. Shell small, pyriform, straw-coloured, smooth, shining; anterior side rather shorter, rounded; posterior side attenuated, acuminated, dorsal area depressed, flattened, rather wide.

A. ADAMS. Proc. Zool. Soc., 1856, p. 49.

Hab. New Zealand.

A bright little species, smooth like *Læda fulgida*, but more attenuated and sharply pointed posteriorly.

32. a

33.

34.

32. b.

a

35.

b.

a.

36.

b.

37.

38. a.

38. b.

39.

Sowerby, del.et lith.

Vincent Brooks, Day & Son, Imp.

LÆDA.

PLATE VI.

Species 32. (Fig. *a*, *b*, Mus. Brit.)

LÆDA ELENENSIS. *Læd. testâ breviùsculâ, subovatâ, subconcentricè crebrè liratâ; latere antico subacuminatim rotundato, margine dorsali elevato; margine ventrali utrinque sursùm acclivi, medio convexo; latere postico costâ umbonali subarcuatâ marginato, rostrato, acuminato; areis dorsalibus latis, definitis.*

THE SAINT ELENA LÆDA. Shell rather short, subovate, subconcentrically closely lirated; anterior side subacuminately rounded, dorsal margin elevated, ventral margin sloped upwards at both ends, convex in the middle; posterior side edged with an umbonal curved rib, beaked, acuminated; dorsal areas wide, defined.

SOWERBY. Proc. Zool. Soc., 1832, p. 198.

Hab. St. Elena. Panama.

Species 33. (Mus. Brit.)

LÆDA MAURITIANA. *Læd. testâ brevi, arcuatâ, albidâ, latâ, ventricosâ, tenuiter concentricè striatâ, latere antico inflato; latere postico rostrato, costâ rostrali arcuatâ, elevatâ, margine ventrali convexâ, areâ dorsali depressâ, latâ, complanatâ, definitâ.*

THE MAURITIUS LÆDA. Shell short, arched, whitish, broad, ventricose, finely concentrically striated; anterior side inflated; posterior side beaked, rostral beak arched, elevated, ventral margin convex, dorsal area depressed, broad, flattened, defined.

SOWERBY. Conch. Illustr. Nucula, f. 17.

Hab. Ceylon, China, Mauritius.

Species 34. (Mus. Brit.)

LÆDA PUELLATA. *Ost. testâ parvâ, brevi, elevatâ, ovato-subtrigonâ, albâ, concentricè tenuiter striatâ; latere antico inflato, rotundo, margine dorsali declivi; latere postico brevi, angusto, acuminato, rostrato; rostro lævigato; umbonibus elevatis, rotundis.*

THE MAIDEN LÆDA. Shell small, short, elevated, ovate-subtrigonal, white, concentrically finely striated; anterior side inflated, rounded, dorsal margin sloped, posterior side short, narrow, acuminated rostrated; beak smooth; umboes elevated, rounded

HINDS. Proc. Zool. Soc., 1843, p. 100.

Hab. Malacca.

Species 35. (Fig. *a*, *b*, Mus. Brit.)

LÆDA CUNEATA. *Læd. testâ subtrigonâ, brevi, altâ, epidermide fusco-viridi indutâ, concentricè tenuiter striatâ; latere antico rotundè subacuminato; latere postico latè angulato, rostrato; rostro lævigato arcuatim producto, areâ dorsali depressâ, latâ, complanatâ, definitâ, margine ventrali acclivi; umbonibus elevatis, angulatis.*

THE CUNEATE LÆDA. Shell subtrigonal, short, elevated, covered with a brownish-green epidermis, concentrically finely striated; anterior side roundly subacuminated; posterior side widely angulated, rostrated, beak smooth, produced with a curve, dorsal area depressed, wide, flattened, defined; ventral margin sloped, umboes elevated, angulated.

SOWERBY. Proc. Zool. Soc., 1832, p. 198.

Læda inornata, A. Adams.

Hab. Valparaiso, New Guinea.

The posterior side forms a broad angle like that of *Hippopus maculatus*.

Species 36. (Fig. *a*, *b*, Mus. Brit.)

LÆDA ORNATA. *Læd. testâ acutâ, subovatâ, albidâ, concentricè striatâ; latere antico ventricoso, porcâ angustâ sulcoque approximato radiato; latere postico angusto, acuminato, producto, acutè rostrato, margine dorsali valdè depresso, arcuato, areâ complanatâ; umbonibus elevatis, acutis.*

THE ORNATE LÆDA. Shell acute, subovate, whitish, concentrically striated; anterior side ventricose, rayed with a narrow ridge and approximate furrow; posterior side narrow, acuminated, produced, acutely rostrated, dorsal margin much depressed, arched, area flattened; umboes elevated, acute.

D'ORBIGNY. Amér. Mérid., p. 546, pl. 82, f. 4-6.

Hab. Payta, Peru.

Species 37. (Mus. Brit.)

LÆDA BICOSTATA. *Læd. testâ arcuatâ, semiovatâ, compressâ, epidermide pallidâ indutâ, liris ferè concentricis, undulatis posticè super costas moniliferis sculptâ; latere antico rotundè subacuminato, margine ventrali rotundè convexo; latere postico porcis duabus crenulatis arcuatis radiato, margine dorsali depresso, concavo, ad terminum acuto; umbonibus rotundis, elevatis.*

THE TWO-RIBBED LÆDA. Shell arched, semiovate, compressed, covered with a pale epidermis, sculptured with nearly concentric ridges undulated at the back and beaded on the ribs; anterior side roundly subacuminated with ventral margin roundly convex; posterior side rayed with two crenulated arched ribs, dorsal margin depressed, concave, acute at the end; umboes rounded, elevated.

SOWERBY.

Hab. Panama.

The arched form and distinct elevated and curved posterior ribs seem to distinguish this shell from the varieties of *Læda Elenensis.*

Species 38. (Fig. *a*, *b*, Mus. Brit.)

LÆDA EXCAVATA. *Læd. testâ parvâ, brevi, altâ, ventricosâ, liris concentricis validis sculptâ, pallidissimè fulvâ; latere antico brevi, inflato, costellâ propè marginem radiatâ; latere postico acuminato, costâ arcuatâ, crenatâ, prominenti radiato, ante costam contracto, areâ dorsali depressâ, excavatâ, late, planâ.*

THE EXCAVATED LÆDA. Shell small, short, elevated, ventricose, sculptured with strong concentric ridges, pale fawn; anterior side short, inflated, rayed with a small rib near the margin; posterior side acuminated, rayed with an arched crenulated prominent rib, contracted in front of the rib, dorsal area depressed, excavated, wide, flat.

HINDS. Proc. Zool. Soc., 1843, p. 100.

Hab. Panama.

Species 39. (Fig. *a*, *b*, Mus. Brit.)

LÆDA MICANS. *Læd. testâ acuminatim ovatâ, pallidè fulvâ, sulcis tenuibus obliquis posticè biradiatim interruptis sculptâ; latere antico longiùsculo; latere postico breviùsculo, acuminato radiatim, angulato, areâ dorsali depressâ, angustâ.*

THE SHINING LÆDA. Shell acuminately ovate, pale fulvous, sculptured with fine, oblique sulci interrupted posteriorly in two rays; anterior side rather long, posterior side rather short, acuminated, radiately angulated, dorsal area depressed, narrow.

A. ADAMS. Per Hanley in *Thesaurus Conchyliorum.*

Hab. New Zealand.

40.a.

41.

42.

40.b.

43.a.

43.b.

44.a.

45.

46.

44.b.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

LÆDA.

PLATE VII.

Species 40. (Fig. *a*, *b*, Mus. Brit.)

LÆDA LUGUBRIS. *Læd. testâ oblongo-trigonâ, inæquilaterali, ventricosâ, crassâ, epidermide tenebrosâ indutâ, concentricè liratâ, liris crassis remotis; margine dorsali utrinque declivi, latere postico subrostrato, antico rotundo; areis dorsalibus lævibus, latis, definitis.*

THE LUGUBRIOUS LÆDA. Shell oblong-trigonal, inequilateral, ventricose, thick, covered with a dark epidermis, concentrically ridged, ridges thick, remote; dorsal margin sloped on both sides; posterior side subrostrated, anterior side rounded, dorsal areas smooth, broad, defined.

A. ADAMS. Proc. Zool. Soc., 1856.

Hab. ——?

Species 41. (Mus. Brit.)

LÆDA INCONSPICUA. *Læd. testâ parvâ, pallidè stramineâ, lævigatâ, concentricè tenuiter striatâ, subovatâ; latere postico subacuminato, angulato, areâ postangulari depressâ, obliquè truncatâ, ad terminum acuminatâ, margine dorsali depresso, rectiùsculo; latere antico subrotundo.*

THE INCONSPICUOUS LÆDA. Shell small, pale straw, smooth, concentrically finely striated, subovate; posterior side subacuminated, angular, postangular area depressed, obliquely truncated, acuminated at the end, dorsal margin depressed, rather straight; anterior side rounded.

A. ADAMS. Proc. Zool. Soc., 1856.

Hab. Australia.

A neat little species with an angular posterior ridge, leaving a depressed area with a pointed extremity.

Species 42. (Mus. Brit.)

LÆDA COMMUTATA. *Læd. testâ parvâ, subovatâ, pallidâ; latere postico brevi, angusto, rostrato acuminato, margine dorsali valdè depresso, areâ magnâ, planulatâ, definitâ; latere antico leviter unicostato; liris densis, ferè concentricis.*

THE COMMUTED LÆDA. Shell small, subovate, pale; posterior side short, narrow, beaked, acuminated, dorsal margin much depressed, area large, flattened, defined; anterior side with a slight rib; ridges close, nearly concentric.

HANLEY. Thes. Conch., Nuculidæ, sp. 45.

Area pella. Brug.

Hab. Mediterranean.

Species 43. (Fig. *a*, *b*, Mus. Brit.)

LÆDA PELLA. *Læd. testâ albâ, crassâ, ventricosâ, subovatâ, tenuiter undulatim et obliquè striatâ; latere postico acutè angulato, areâ postangulari in medio unicostâ, margine dorsali rectiùsculo, depresso, costam crenulatam efformanti, ad terminum acuminato; areis dorsalibus magnis, planulatis, costato-marginatis.*

THE MACEDONIAN LÆDA. Shell white, thick, ventricose, subovate, finely undulatingly and obliquely striated; posterior side acutely angular, postangular area with a single rib in the centre, dorsal margin rather straight, depressed, forming a crenulated ridge, acuminated at the end; dorsal areas large, flattened, rib-margined.

LINNÆUS. Systema Naturæ.

Area interrupta. Polv.

Nucula fabula. Sowb.

Nucula emarginata. Philippi.

Hab. Mediterranean.

Species 44. (Fig. *a*, *b*, Mus. Brit.)

LÆDA LATA. *Læd. testâ albâ, compressâ, latè ovatâ, acuminatâ, tenuiter obliquè striatâ; latere postico producto, angusto, acuminato, subrostrato, areâ marginali latâ, depressâ; latere antico breviùsculo, supernè subacuminato; areâ latâ, margine ventrali sursùm acclivi, striis anticis majoribus, posticis obsoletis.*

THE BROAD LÆDA. Shell white, compressed, widely ovate, acuminated, finely obliquely striated; posterior side produced, narrow, acuminated, subrostrated, marginal area wide, depressed; anterior side rather short, rather acuminated above; area wide, ventral margin sloped upwards, anterior striæ larger, posterior striæ obsolete.

HINDS. Proc. Zool. Soc., 1843.

Læda semisulcata. A. Adams.

Hab. New Guinea, Borneo.

Species 45. (Mus. Brit.)

LÆDA ROSTRATA. *Læd. testâ latè ovatâ, solidâ, albâ, lineis impressis numerosis obliquis posticè undulatis super rostrum posticum fortioribus sculptâ, anticè inflatâ, latâ, posticè rostratâ, truncatâ, margine dorsali posticè depresso; margine ventrali valdè convexo.*

THE BEAKED LÆDA. Shell widely ovate, solid, white, sculptured with numerous impressed oblique lines undulated at the back and stronger upon the posterior beak, inflated in front, wide, rostrated and truncated at the back; dorsal margin posteriorly depressed; ventral margin very convex.

MONTAGUE. Test. Britt. Sup., 55, pl. 27., f. 7.

Nucula Montagui. Gray.

Nucula curvirostrum. Humphreys.

Nucula recurva. Conrad.

Hab. Guinea, Liberia.

Species 46. (Mus. Brit.)

LÆDA CHUVA. *Læd. testâ latâ, albâ, subcompressâ, arcuatâ, concentricè liratâ; latere antico subinflato, lato, margine dorsali elevato; latere postico valdè arcuato, acuminato, margine dorsali depresso, ad terminum elevato, margine ventrali sursùm acclivi, costâ rostrali arcuatâ, liratâ, areâ dorsali complanatâ, definitâ.*

THE CHUVA LÆDA. Shell wide, white, subcompressed, arched, concentrically ridged, anterior side a little inflated, wide, dorsal margin elevated; posterior side much arched, acuminated, dorsal margin depressed, elevated at the end, ventral margin sloped upwards, rostral rib arched ridged, dorsal area flattened, defined.

GRAY. Voyage of the *Fly*. Marine Shells, pl. 2, f. 6.

Hab. Moreton Bay, Australia.

47.

48. a.

48. b.

49.

50.

43. c.

51.

52. a.

52. b.

53.

LÆDA.

PLATE VIII.

Fig. 43, c.

A more elongated variety of *Læda pella.*

Species 47. (Mus. Taylor.)

LÆDA CONRADI. *Læd. testâ parvâ, subtrigonâ, acutâ, longiusculâ, tumidâ, epidermide obscurè olivaceo indutâ, perobliquè costellatâ; latere postico acuminato, margine dorsali angulatim depresso; umbonibus acuminatis, elevatis, margine ventrali convexo; latere antico rotundo, prope umbones excavato.*

CONRAD'S LÆDA. Shell small, subtrigonal, acute, rather long, tumid, covered with an obscure olive epidermis, very obliquely ribbed, posterior side acuminated, dorsal margin angularly depressed; umboes acuminated, elevated, ventral margin convex; anterior side round, excavated near the umboes.

HANLEY. Proc. Zool. Soc., 1870.

Hab. —— ?

The sculptured lines forming riblets are extremely oblique, forming scarcely obtuse angles with the concentric ones.

Species 48. (Mus. Brit.)

LÆDA RETICULATA. *Læd. testâ ovato-acuminatâ, ventricosâ, pallidâ, obliquè costellatâ, inter costas radiatim striatâ; latere postico rostrato, breviusculo, acuminato; umbonibus elevatis, rotundis, margine ventrali convexissimo; latere antico ventricoso, costâ unicâ propè marginem ornato; areâ posticâ profundè impressâ, subduplicatâ; lunulâ angustâ.*

THE RETICULATED LÆDA. Shell ovate-acuminated, ventricose, pale, obliquely costellated, radiately striated between the ribs; posterior side rostrated, rather short, acuminated, umboes elevated, rounded, ventral margin very convex; anterior side ventricose, ornamented near the margin with a radiate rib; posterior area deeply impressed, somewhat duplicate; lunule narrow.

HINDS. (Nucula) Proc. Zool. Soc., 1843.

Hab. Philippines.

Species 49. (Mus. —— ? copied.)

LÆDA JAMAICENSIS. *Læd. testâ minutâ, oblongo-ovatâ, acuminatâ, pallidâ, concentricè costatâ; latere postico producto, acuminato, rostrato, costâ rostrali crenulatâ, margine dorsali depresso, areâ lævigatâ; latere antico leviter unicostato; lunulâ indistinctâ.*

THE JAMAICA LÆDA. Shell minute, oblong-ovate, acuminated, pale, concentrically ribbed; posterior side produced, acuminated, beaked, rostral rib crenulated, dorsal margin depressed, area smooth; anterior side with a single slight radiating rib; lunule indistinct.

D'ORBIGNY. Mollusca of Cuba, p. 263, pl. 24, f. 30-2.

Hab. West Indies.

Species 50. (Mus. Taylor.)

LÆDA ACUMINATA. *Læd. testâ parvâ, albâ, pyriformi, concentricè tenuiter costatâ, costis versus terminos crassiusculis; latere postico subattenuato, acuminato, areâ dorsali lævi, circumscriptâ, rectâ; latere antico ventricoso, rotundo, leviter radiatim unicostato.*

THE ACUMINATED LÆDA. Shell small, white, pyriform, concentrically finely ribbed, ribs towards the ends rather thicker; posterior side rather attenuated, acuminated, dorsal area smooth, circumscribed, straight; anterior side ventricose, rounded, with a single slight radiating rib.

SOWERBY.

Hab. —— ?

I cannot identify this pretty little shell with any of the numerous species described in Mr. Hanley's monograph.

Species 51. (Mus. Brit.)

LÆDA GIBBOSA. *Læd. testâ solidâ, ventricosâ, oblongo-ovatâ, concentricè costatâ, epidermide olivaceo indutâ; latere postico acuminato, subrostrato,*

margine dorsali planulatim depresso; umbonibus rotundis, elevatis, margine ventrali medio vix contracto; latere antico inflato, rotundo.

THE GIBBOUS LÆDA. Shell solid, ventricose, oblong-ovate, concentrically ribbed, covered with an olive epidermis; posterior side acuminated, subrostrated, dorsal margin flatly depressed; umboes rounded, elevated, ventral margin very slightly contracted in the middle; anterior side inflated, rounded.

SOWERBY. (Nucula) Proc. Zool. Soc., 1832.

Hab. Peru.

One of the largest and most solid shells in the genus.

Species 52. (Mus. Brit.)

LÆDA STRIATA. *Læd. testâ minutâ, inflatâ, tenui, concentricè striatâ; latere postico acuminato; latere antico inflato; margine dorsali utrinque crenato, areis depressis circumscriptis.*

THE STRIATED LÆDA. Shell minute, inflated, thin, concentrically striated; posterior side acuminated; anterior side inflated; dorsal margin crenated on both sides, with depressed circumscribed areas.

KING. (Nucula) Zool. Journal, vol. v. p. 337.

Hab. Patagonia.

Species 53. (Mus. Brit.)

LÆDA FRAGILIS. *Læd. testâ minutâ, inflatâ, brevi, altâ, semipellucidâ, densè costellis concentricis cinctâ; latere postico brevissimo, acutè rostrato, latere antico rotundo, inflato.*

THE FRAGILE LÆDA. Shell minute, inflated, short, deep, semipellucid, closely girt with concentric riblets; posterior side very short, acutely ribbed; anterior side round, inflated.

CHEMNITZ (Arca) Conch., vol. vii. p. 165, f. 546.

Nucula striata. Sowerby.

54.

55. a.

55. b.

56.

57.

58.

59.

60.

61.

62.

LÆDA.

PLATE IX.

Species 54. (Mus. Cum. in Brit.)

LÆDA DORHNII. *Læd. testâ subcompressâ, solidâ, oblongo-subovatâ; anticè concentricè costellatâ, stramineâ; latere postico longiusculo, acuminatim rostrato, margine dorsali recto, areâ angustâ depressâ, circumscriptâ, costellis antè costellam marginalem terminantibus; latere antico vix costellato.*

DORHN'S LÆDA. Shell subcompressed, solid, oblong-subovate, concentrically ribbed in front, straw-coloured, posterior side rather longer, acuminately rostrated, dorsal margin straight, area narrow, depressed, circumscribed; ribs terminating in front of the marginal riblet; anterior side hardly ribbed.

A. ADAMS. —— ?

Hab. —— ?

I find this little shell named as above in the Cumingian cabinet.

Species 55. (Mus. (late) Metcalfe.)

LÆDA CRISPA. *Læd. testâ parvâ, subovatâ; solidâ, ventricosâ, albidâ, concentricè tenuiter sulcatâ; latere postico sursùm arcuato, angusto, costâ anguloque radiato; inter angulum et costam depresso, emarginato, ad terminum acuminato, super costam crenulato; latere antico inflato, costâ sulcoque radiato; areâ dorsali angustâ, planulatâ, circumscriptâ.*

THE CRISP LÆDA. Shell small, subovate, solid, ventricose, whitish, concentrically finely sulcated; posterior side arched upwards, narrow, rayed with a rib and an angle, depressed and emarginated between the rib and the angle; anterior side inflated, rayed with a rib and groove; dorsal area narrow, flat, circumscribed.

Hinds. (Nucula) Proc. Zool. Soc., 1843, p. 100.

Hab. Gulf of Nocoyo.

A pretty little species, with a kind of curl upwards.

Species 56. (Mus. Brit.)

LÆDA HAMATA. *Læd. testâ compressâ, arcuatâ, lanceolatâ, concentricè liratâ, epidermide crassiùsculo indutâ; latere postico attenuato, elongato, arcuato, rostrato, margine dorsali concavo, areâ rostrali ad terminum truncatâ; umbonibus elevatis, acutis; margine ventrali valde convexo; latere antico brevissimo.*

THE HOOKED LÆDA. Shell compressed, arched, lanceolate, concentrically ridged, covered with a thickish epidermis; posterior side attenuated, elongated, arched, beaked, dorsal margin concave, rostral area truncated at the end; umboes elevated, acute; ventral margin very convex; anterior side very short.

CARPENTER. —— ?

Hab. Catalina Islands.

Species 57. (Mus. Brit.)

LÆDA CUSPIDATA. *Læd. testâ parvâ, pyriformi, albidâ, tenuissimè et æqualiter striatâ; latere postico longiùsculo rostrato, angusto, ante rostrum subcontracto; latere antico rotundo, margine dorsali declivo.*

THE SPEAR-SHAPED LÆDA. Shell small, pyriform, whitish, very finely equally striated; posterior side a little the longer, rostrated, narrow, a little contracted behind the rostrum; anterior side round, with dorsal margin sloped.

GOULD. —— ?

Hab. North America.

One of the simplest of the little pyriform species.

Species 58. (Mus. Brit.)

LÆDA BROOKII. *Læd. testâ minutâ, suborbiculari, brevi, ventricosâ, distanter concentricè liratâ; latere postico brevi, acuminato; latere antico ventricosissimo.*

BROOKE'S LÆDA. Shell minute, suborbicular, short, ventricose, distantly concentrically ridged; posterior side short, acuminated, anterior side very ventricose.

HANLEY. Proc. Zool. Soc., 1860.

Hab. Borneo.

So short and ventricose as to be almost orbicular, although somewhat pointed at the posterior side.

Species 59. (Mus. Brit.)

LÆDA EBOREA. *Læd. testâ solidâ, albidâ, elongato-pyriformi; latere postico producto, attenuato, acuminato ad terminum obtuso, margine dorsali depresso, areâ vix definitâ; umbonibus parvis, acutis; latere antico breviùsculo, ventricoso, margine dorsali declivi.*

THE EBOREAN LÆDA. Shell solid, whitish, elongate pyriform; posterior side produced, attenuated, acuminated; obtuse at the end; dorsal margin depressed; area scarcely defined; umboes small, acute; anterior side rather short, ventricose, with dorsal margin sloped.

CONRAD. (Nucula) Proc. Philadelph. Soc., vol. iii. 24, pl. 1, f. 4.

Hab. Florida.

Species 60. (Mus. Brit.)

LÆDA HINDSII. *Læd. testâ parvâ, subpyriformi, pallidâ, tenuiter concentricè striatâ; latere postico acuminato, acutè rostrato, costâ rostrali sursùm arcuatâ, lævigatâ, aream dorsalem circumscribenti; latere antico ventricoso, costâ unicâ propè marginem radiato.*

HINDS' LÆDA. Shell small, subpyriform, pale, finely concentrically striated; posterior side acuminated, acutely beaked, rostral rib curved upwards, smooth, circumscribing the dorsal area; anterior side ventricose, rayed with a single rib near the margin.

HANLEY. In Sowerby's Thesaurus Conchyliorum—Nuculidæ, Læda, sp. 51, f. 102.

Hab. Gulf of Nicoya?

Differing from *Læda crispa*, Hinds, in being more elongated and more finely sculptured.

Species 61. (Mus. Brit.)

LÆDA VITRÆA. *Læd. testâ parvâ, tenuissimâ, vitreâ, ventricosâ, tenuissimè concentricè striatâ; latere postico acuminato, margine dorsali depresso, areâ circumscriptâ; latere antico ventricoso, costâ obscurâ propè marginem radiato.*

THE GLASSY LÆDA. Shell small, very thin, glassy, ventricose, very finely concentrically striated; posterior side acuminated, with dorsal margin depressed, area circumscribed, anterior side ventricose, rayed with an obscure rib near the margin.

D'ORBIGNY. Moll. Isl. Cuba, 363, pl. 24, f. 30-2.

Hab. West Indies.

Species 62. (Mus. ——?)

LÆDA RECTA. *Læd. testâ oblongâ, stramineâ, rectiusculâ, cuneiformi, anticè et medio obliquè striatâ; latere postico longiùsculo, margine dorsali declivi, areâ convexâ, lævigatâ, circumscriptâ; latere antico rotundo.*

THE STRAIGHT LÆDA. Shell oblong, stramineous, rather straight, cuneiform, obliquely striated in the front and middle; posterior side rather longer, dorsal margin sloped, area convex, smooth, circumscribed, anterior side rounded.

HINDS. (Nucula) Proc. Zool. Soc., 1843, p. 100.

Hab. —— ?

L Æ D A.

	Plate.	Species.
acuminata, *Sowerby*	VIII.	50
arcuata, *Sowerby*	IV.	20
Belcheri, *Hinds*	IV.	23
bellula, *A. Adams*	V.	25
bicostata, *Sowerby*	VI.	37
bicuspidata, *Gould*	II.	8
Brookii, *Hanley*	IX.	58
buceata, *Steenstrüp*	II.	7
cælata, *Hinds*	II.	6
caudata, *Donovan*	IV.	19
chuva, *Gray*	VII.	46
commutata, *Hanley*	VII.	42
complanata, Möller	III.	11
concinna, *A. Adams*	III.	15
confusa, *Hanley*	V.	24 *bis.*
Conradi, *Hanley*	VIII.	47
costellata, *Sowerby*	IV.	24
crassa, *Hinds*	V.	27
crenifera, Hanley	IV.	18
crenifera, *Sowerby*	IV.	21
crispa, *Hinds*	IX.	55
cuneata, *Sowerby*	VI.	35
curvirostrum, Humphrys	VII.	45
cuspidata, *Gould*	IX.	57
decora, *A. Adams*	III.	13
dissimilis, *Sowerby*	II.	9
Dorhnii, *A. Adams*	IX.	54
Eborea, *Conrad*	IX.	59
eburnea, *Sowerby*	V.	29
electa, *A. Adams*	I.	2
Elenensis, *Sowerby*	VI.	32
elongata, Dandin	II.	5
elongata, *Sowerby*	I.	4
elongata, Valenciennes	I.	1
emarginata, Philippi	VII.	43
excavata, *Hinds*	VI.	38
fabula, Sowerby	VII.	43
fastidiosa, *A. Adams*	V.	31
fluviatilis, Schræter	II.	5
fragilis, *Chemnitz*	VIII.	53
fulgida, *A. Adams*	V.	26
gibbosa, *Sowerby*	VIII.	51
gloriosa, *A. Adams*	I.	3
Grœnlandica, Chemnitz	III.	11
hamata, *Carpenter*	IX.	56
Hindsii, *Hanley*	IX.	60
inconspicua, *A. Adams*	VII.	41
intermedia, Oersted	IV.	19
interrupta, Pali	VII.	43
Jamaicensis, *D'Orbigny*	VIII.	49
lanceolata, Lamarck	IV.	17
lanceolata, Sowerby	I.	1
Largillierte, Philippi	II.	8
lata, *Hinds*	VII.	44
lugubris, *A. Adams*	VII.	40
macilenta, Steenstrüp	II.	5
Martinii, Chemnitz	II.	5
Mauritiana, *Sowerby*	VI.	33
Metcalfei, *Hanley*	IV.	18
micans, *A. Adams*	VI.	39
minuta, Gould	III.	10
minuta, Montagu	IV.	19
minuta, *Müller*	III.	11
Montagni, Gray	VII.	45
nasuta, *Sowerby*	V.	28
ornata, *D'Orbigny*	VI.	36
parva, Sowerby	III.	11
Patagonica, *D'Orbigny*	III.	12
pella, Bruguière	VII.	42
pella, *Linnæus*	VII.	43
pernula, *Müller*	II.	5
planulata, *Sowerby*	IV.	22
plicifera, A. Adams	II.	8
polita, *Sowerby*	III.	16
puellata, *Hinds*	VI.	34
recta, *Hinds*	IX.	62
recurva, Conrad	VII.	45
reticulata, *Hinds*	VIII.	48
rostrata, *Montagu*	VII.	45
rostrata, Sowerby	IV.	19
semisulcata, A. Adams	VII.	44
Sowerbyana, *D'Orbigny*	I.	1
striata, *King*	VIII.	52
sulcatus, Leach	IV.	19
Taylori, *Hanley*	IV.	17
tellinoides, *Sowerby*	III.	14
tenuicostata, *Couthoy*	III.	10
ventricosa, *Hinds*	V.	30
vitræa, *D'Orbigny*	IX.	61

MONOGRAPH

OF THE GENUS

PLACUNA.

"Then sweet to muse upon His skill displayed,
Infinite skill—in all that He hath made,
To trace in Nature's most minute design
The signature and stamp of power Divine."—*Cowper.*

1.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

PLACUNA.

PLATE I.

Genus PLACUNA, *Brugruière.*

Testa bivalvis, discoidea, compressa, foliacea, radiatim striata. Impressio muscularis subcentralis, circularis. Margo cardinalis valvulæ sinistræ foveolis duabus divergentibus cartilaginiferis, valvulæ dextræ dentibus duabus laminatis divergentibus minutis.

Shell bivalve, discoidal, compressed, foliaceous, radiately striated. Muscular impression subcentral, circular. Hinge margin provided with two diverging cartilaginiferous grooves in the left valve, and two laminated diverging teeth in the right valve.

Placenta. Retzius.

The simple characters of the genus as above described are sufficient to define it, excluding all other shells and including the five species which are described in this monograph. They are all flat bivalves of a foliaceous and striated structure, with the two diverging teeth in one valve, and correspondingly divergent ligament pits in the other. The degrees of divergence in these teeth and pits, although usefully observed as distinguishing species, cannot surely, with any advantage, be made the basis of generic distinction. Yet this is done by some modern systematists, who actually have the genus *Placenta* for the common white species, and the genus *Placuna* for the remaining species, without any other reason. The shores of China and India furnish the two best known and widely distinguished species, namely the "Chinese Window" and the "Saddle Oyster." The third (*Placuna papyracea*) is a somewhat doubtful species, partaking the characters of the two first, and is probably common to India and North Australia, while the remaining two, namely *P. Lincolni* and *P. lobata*, the latter here described for the first time, are exclusively Australian.

Species 1. (Mus. Brit.)

PLACUNA SELLA. *Pla. testâ plerumque opacâ, intensè purpureâ; crassiusculâ, compressâ, subquadratâ, auriculatâ; auriculis utrinque recurvis, medio planulatim depresso, margine ventrali recurvo, arcuato; marginibus lateralibus decurvis, flexuosis; margine dorsali lato; valvulâ dextrâ radiatim acutè striatâ; valvulâ sinistrâ ad apicem convexiusculâ, leviter striatâ; dentibus laminiformibus subæqualibus, latè divergentibus.*

THE SADDLE PLACUNA. Shell for the most part intensely purple, opaque, rather thick, compressed, subquadrate, auriculated; auricles on both sides recurved; centre flatly depressed; ventral margin recurved, arched; lateral margins bent downwards, flexuous; dorsal margin wide; right valve radiately sharply striated; left valve a little convex at the apex, lightly striated; laminiform teeth nearly equal, widely divergent.

LAMARCK. Animaux sans Vertébres. Placuna No. 1.

"*Ephippium anglicanum maximum*," Chemnitz.

Anomia sella, Gmelin.

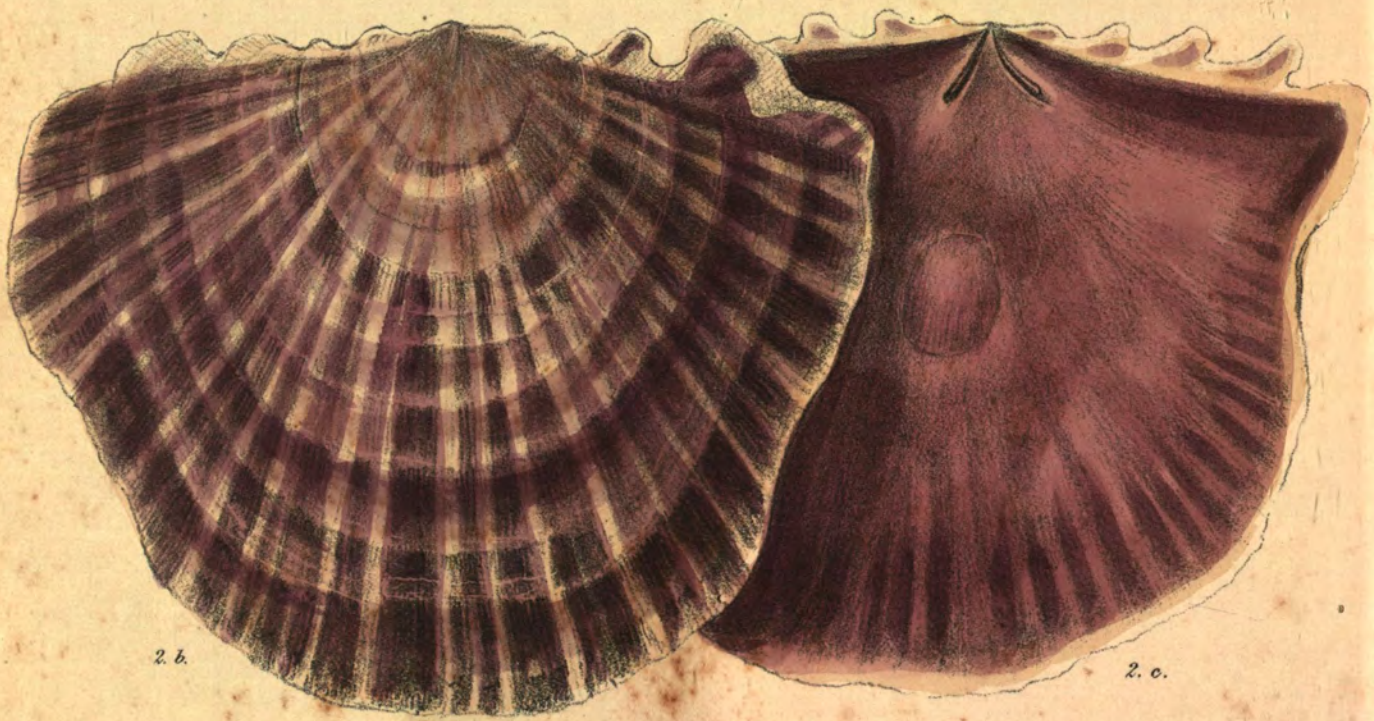
Placenta Ephippium, Retzius.

Hab. Indian and Chinese Coasts.

The peculiar saddle-like form into which this species is bent by the curvature of its margins when full-grown, does not begin to appear in the earlier stages. The young shells are flat, and more or less transparent, and are often of so light a colour as to be hardly distinguishable from the young of *P. placenta* or *P. papyracea*. There are specimens of a beautifully mottled, half grown variety in the Cumingian Collection.

November, 1871.

2. a.



2. b.

2. c.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

PLACUNA.

PLATE II.

Species 2. (Fig. *a*, *b*, *c*, Mus. Brit.)

PLACUNA PAPYRACEA. *Pla. testâ semipellucidâ, compressâ, purpureo radiatâ, subauriculatâ, auriculis vix recurvis, margine ventrali leviter recurvo; valvulâ sinistrâ complanatâ; dentibus laminiformibus subæqualibus, subarcuatis; margine dorsali interdum lobato.*

THE PAPYRACEOUS PLACUNA. Shell semipellucid, compressed, rayed with purple, subauriculated, auricles scarcely recurved; ventral margin slightly recurved, left valve flattened; laminiform teeth nearly equal, a little arched; dorsal margin sometimes lobed.

LAMARCK. Animaux sans Vertébres, No. 2.

Ephippium parvum. Chemnitz.

Hab. India, Philippines, Australia.

It is probable that this species was first described from the Indian form, and quite possible that the figures in Chemnitz may have been taken from the young of *Placuna sella*. Still it does appear that there is a species resembling in the young state, but never developing into the adult form of that shell. In the Australian examples we have given, two characters are observable which may help to distinguish this species, namely the curved character and smaller divergence of the teeth, and absence of that degree of convexity which distinguishes the lower or left valve of *Placuna sella*. Some of the specimens are beautifully rayed, and some are much notched or lobed at the dorsal margin.

November, 1871.

3. b.

3. a.

3. c.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

PLACUNA.

PLATE III.

Species 3. (Fig. *a*, *b*, *c*, and Plate IV. fig. *d*, Mus. Brit.)

PLACUNA PLACENTA. *Pla. testâ albâ, orbiculari, pellucidâ, compressâ, planulatâ, marginibus rarò subflexuosis; dentibus laminiformibus longitudine valdè inæqualibus, angustè divergentibus, valvulâ sinistrâ propè umbonem purpureo radiato.*

THE PLACENTA PLACUNA. Shell white, orbicular, pellucid, compressed, flattened, margins rarely subflexuous; laminiform teeth very unequal in length, narrowly divergent; left valve rayed with purple near the umbo.

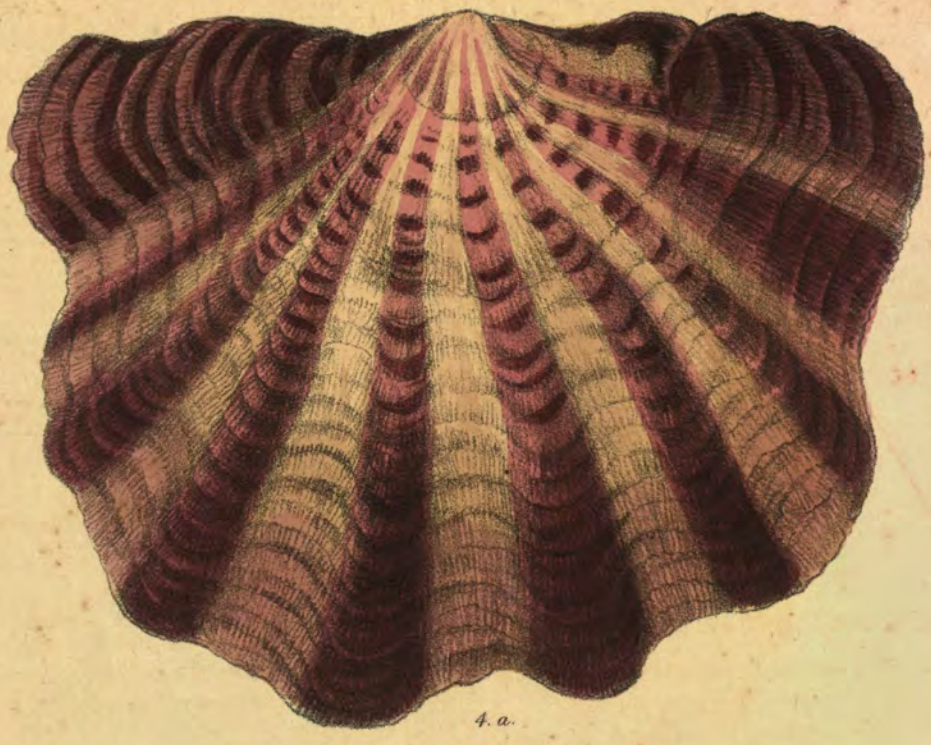
LINNÆUS (*Anomia*) Systema Naturæ.

Placenta orbicularis. Retzius.

Hab. China, North-west Australia, Philippines.

The prevailing form of this shell, commonly called the "Chinese Window," is orbicular as in fig. *d*, Plate IV., but the very large specimen given in the present plate exhibits not only a deviation from that form, but also a tendency to curve upwards at the ventral margin a little after the fashion of the "Saddle Oyster." The young, being purple-rayed, are not always easily distinguishable from the young of *P. sella* and *P. papyracea* by the form of the shell. But the great distinguishing mark of the species is the unequal length and narrow divergence of the teeth.

November, 1871.



4. a.

3. d.

Vincent Brooks, Day & Son, Imp.

Sowerby del. et lith.

PLACUNA.

PLATE IV.

Species 4. (Fig. *a*, ; and Plate V. fig. *b*, Mus. Brit.)

PLACUNA LOBATA. *Pla. testâ subquadratâ, compressâ, vix versùs umbones convexâ, albidâ vel fusco-purpureo radiatâ, costis paulo elevatis, latis rotundis radiatâ, intùs purpureo-fusco, vel maculato-nebulatâ; marginibus lateralibus et ventralibus lobatis; dentibus subæqualibus, moderatè divergentibus.*

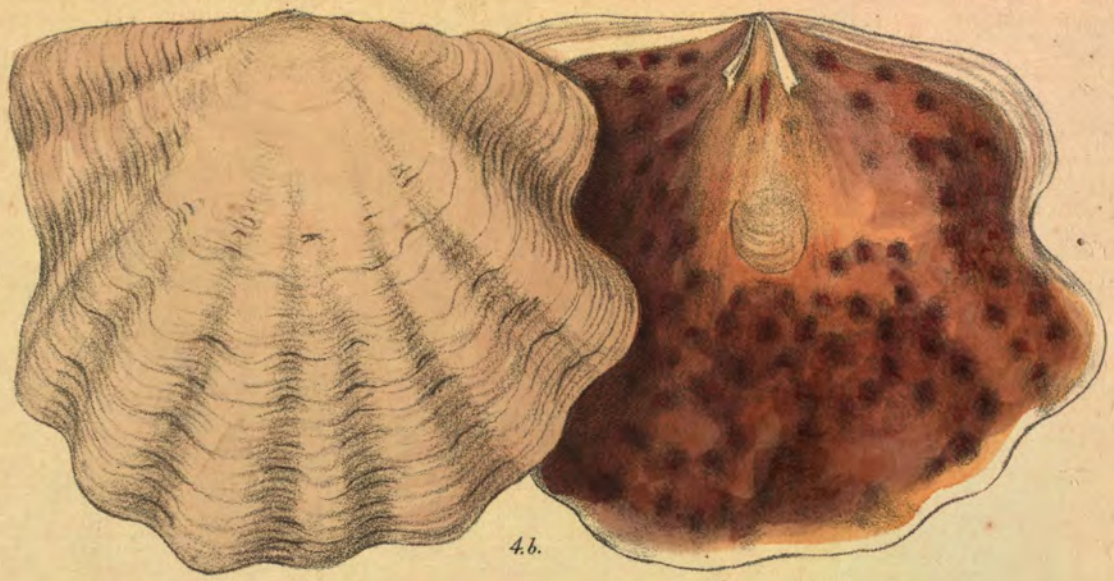
THE LOBED PLACUNA. Shell subquadrate, compressed, slightly convex towards the umboes, whitish or brownish purple-rayed, rayed with slightly elevated broad rounded ribs, within purplish brown or cloudy-spotted; lateral and ventral margins lobed, teeth nearly equal, moderately divergent.

SOWERBY.

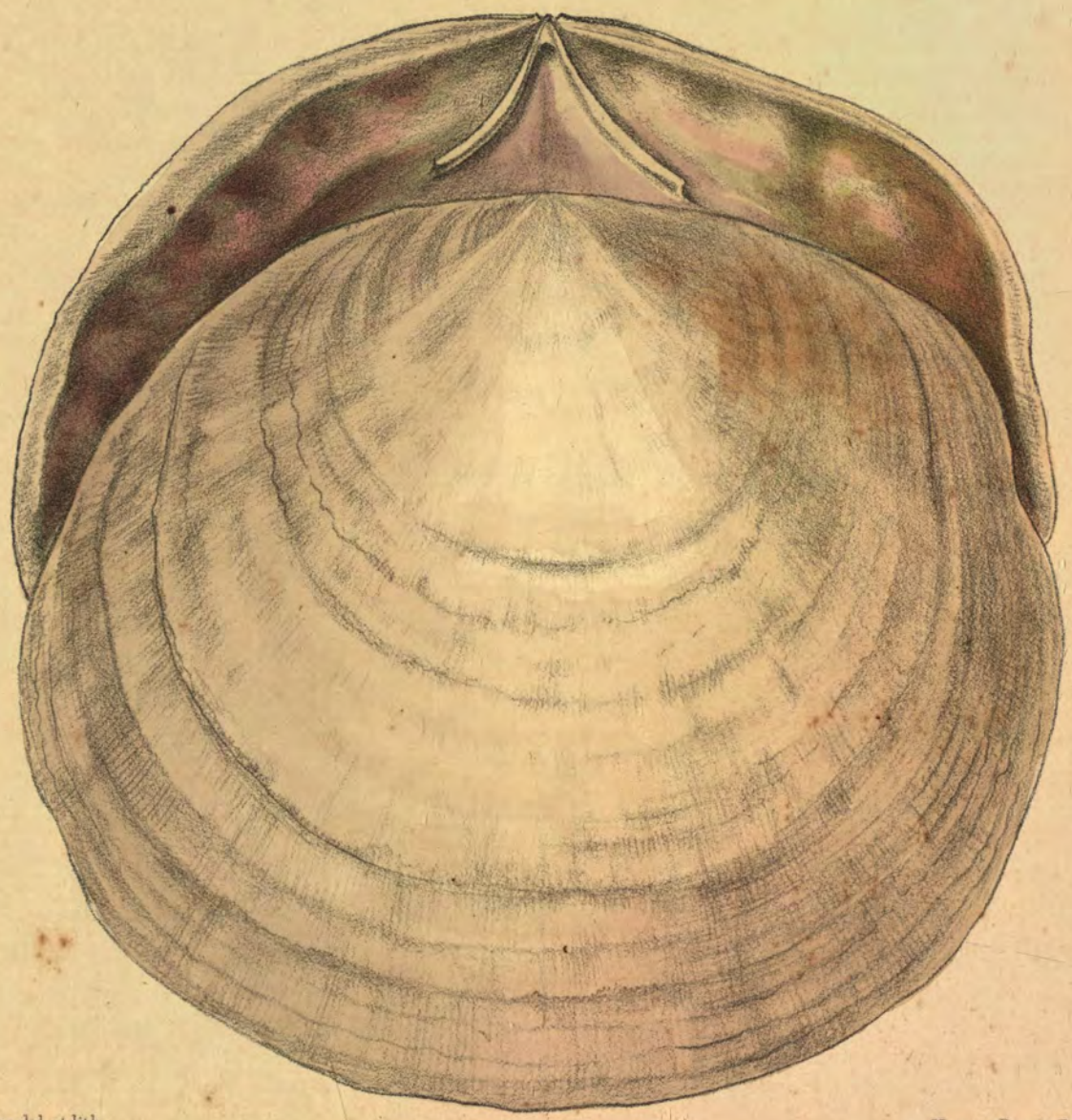
Hab. Port Essington.

The peculiarity of this shell consists in its being rayed with slightly raised ribs, accompanied with great flexuosity in the lines of growth and lobes on the lateral and ventral margins of the valves. The teeth are similar to those of *Placuna papyracea*.

November, 1871.



4.b.



Sowerby, del. et lith.

5.

Vincent Brooks, Day & Son, Imp.

PLACUNA.

PLATE V.

Species 5. (Mus. Brit.)

PLACUNA LINCOLNI. *Pla. testâ crassiùsculâ, opacâ, suborbiculari, albidâ, complanatâ, intùs purpureo-aureoque nebulatâ, iridescenti; dentibus subæqualibus, elongatis, rectis, latissimè divergentibus.*

LINCOLN'S PLACUNA. Shell rather thick, opaque, suborbicular, whitish, flattened, mottled with purple and gold and iridescent within; teeth nearly equal, elongated, straight, widely divergent.

GRAY. Proc. Zool. Soc., 1848.

Hab. Australia.

This shell has the same form normally as *Placuna placenta*. It is of a more solid and opaque texture, and the laminiform teeth diverge as widely as they do in the *Placuna sella*.

Fig. 4, *b*.

Represents a variety of *Placuna lobata nobis*, beautifully mottled inside with tortoise-shell colouring.

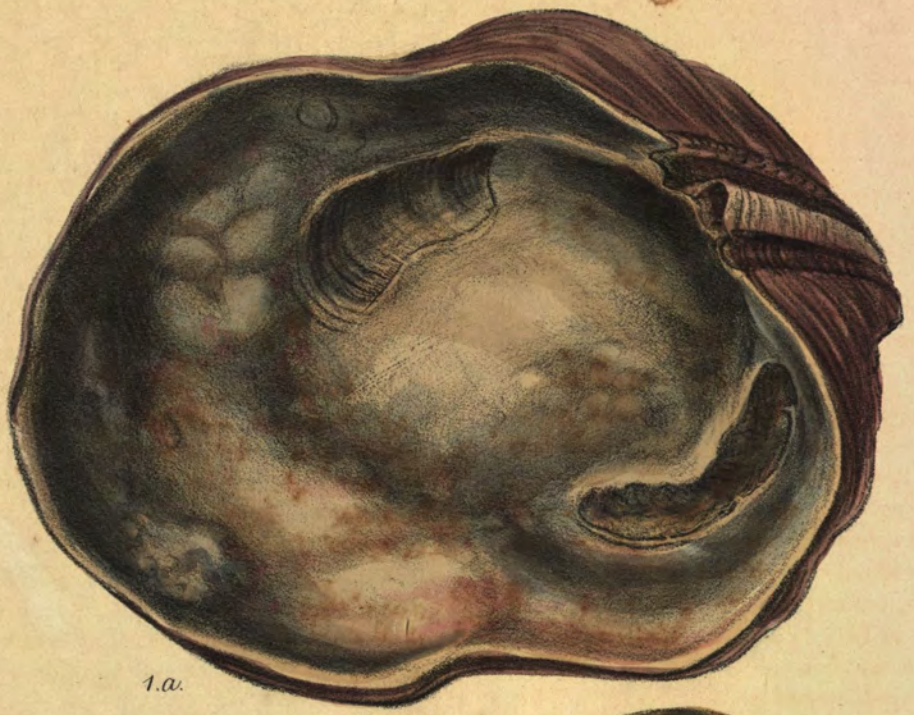
November, 1871.

MONOGRAPH

OF THE GENUS

ETHERIA.

"That which may profit and amuse is gathered from the volume of creation,
For every chapter therein teemeth with the playfulness of wisdom.—*M. F. Tupper.*



1.a.

1.b.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

ETHERIA.

PLATE I.

Genus ETHERIA, *Lamarck.*

Testa inæquivalvis, bimuscŭlosa, irregularis, per valvam inferiorem adhærens, foliacea, frequenter vesicularis, epidermide crasso, olivaceo induta; intùs margaritacea. Margo cardinalis arcuato, edentulo, foliaceo, valvæ inferioris plus minusve producto. Ligamentum externum partim in sulcum dispositum, partim super aream cardinalem expansum.

Shell inequivalve, bimuscular, irregular, adhering by the lower valve, foliaceous, often vesicular, covered with a thick olive epidermis; pearly within. Hinged margin arched, toothless, foliaceous, that of the lower valve more or less produced. Ligament external, part placed in a groove, part spread over the cardinal area.

It does not appear necessary to divide the numerous forms of this genus into more than two species, namely the *Etheria elliptica* and *Etheria Cailliaudi*. They occupy the large rivers of Africa: the former the Nile and the Senegal, and the latter the Nile only, above the Cataracts. ETHERIA *Stephanensis*, from the great South American River Amazon, has been with great propriety separated under the generic name BARTELETTIA. The Etheriæ may be simply designated "Fresh-water Oysters," and some of the specimens are not without beauty, arising from the pearly structure of the interior, and (when unworn) the striped wavings of the green epidermis.

Species 1. (Mus. Brit.)

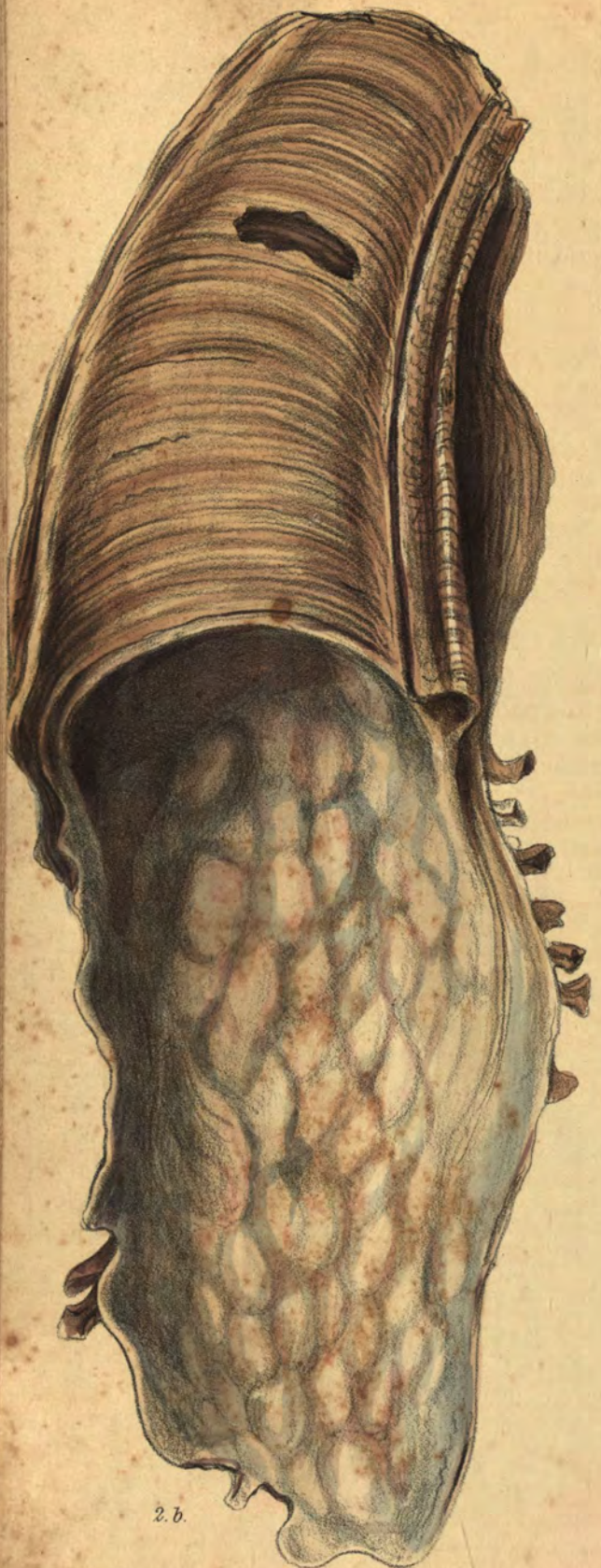
ETHERIA ELLIPTICA. *Eth. testâ solidiusculâ, irregulari, lævigatâ, inarmatâ; epidermide concentricè strigato; aream cardinali trigonâ, valvæ inferioris moderatè producto; apicibus subdistantibus; impressionibus muscularibus magnis, anticâ semilunari.*

THE ELLIPTICAL ETHERIA. Shell rather solid, irregular, smooth, unarmed; epidermis concentrically striped, cardinal area trigonal, that of the lower valve moderately produced; apices somewhat distant; muscular impressions large, the anterior one semilunar.

LAMARCK. Anim. s. vert, tome 6. Etheria, No. 1.
Etheria semilunaris, Lamarck.
Etheria trigonula, Lamarck.
Etheria Carteroni, Michelin.
Etheria Lamarckii, Ferrussac.
Etheria plumbea, Ferrussac.
Etheria transversa, Lamarck.
Hab. The River Senegal and the River Nile.

The above specific synonyms result from those endless variations to which all attached shells of foliaceous structure, whether marine or freshwater, are liable. From the Lamarckian names we select the first in numerical order.

March, 1872.



2. b.

2. a.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

ETHERIA.

PLATE II.

Species 2. (Mus. Cum. in Brit.)

ETHERIA CAILLIAUDI. *Eth. testâ foliaceâ, irregulari, lævigatâ, tuberculis spiniformibus tubiferis, aliis extantibus, aliis decumbentibus armatâ; intùs frequenter vesicularis; valvâ inferiori nonnunquam profundâ, concamerata, areâ cardinali valdè attenuatâ.*

CAILLIAUD'S ETHERIA. Shell foliaceous, irregular, smooth, armed with spiniform tubiferous tubercles, some outstanding, others decumbent; often vesicular within; lower valve sometimes deep concamerated, with cardinal area very much attenuated.

FERRUSSAC. Mem. Soc. H. Nat., t. i. p. 150.

Etheria tubifera, Sowerby.

Hab. The River Nile, chiefly above the Cataracts.

This species is of a lighter structure than the preceding; there is a tendency to form blister-like vesicles on the inner surface, and the substance of the lower valve is chambered and deepened at the hinge, which is sometimes, as seen in the specimen figured, much prolonged. A specimen in the British Museum is about eighteen inches in length, one third of the length being occupied by the upper valve.

March, 1872.

MONOGRAPH

OF THE GENUS

MULLERIA. BARTELETTIA.

"It is an admirable lore to learn the cause in the change,
To study the chemistry of nature, her grand but simple secrets,
To search out all her wonders."—*M. F. Tupper.*

1.a.

2.a.

2.b.

1.c.

1.b.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

BARTELETTIA

AND MULLERIA.

Genus BARTELETTIA, Adams.

Testa bimusculosa, subæquivalvis, liberâ, ovato-subtrigona, irregularis, valdè inæquilaterali, intùs margaritacea. Area cardinalis brevis. Ligamentum in sulcum dispositum. Apices approximati. Impressiones musculares distantes, antico perparvo.

Shell bimuscular, subequivalve, free, ovately subtrigonal, irregular, very inequilateral, pearly within. Cardinal area short. Ligament placed in a sulcus. Apices approximate. Muscular impressions distant, the anterior one very small.

The very curious species forming this genus was first described by *Moricand* as an Etheria. But the fact of its being a free and nearly equivalve shell, and otherwise very singular in its structure, is sufficient to justify its generic separation. It is an inhabitant of the River Amazon. Although distinctly bimuscular, it may be considered, from the very small size of the anterior cicatrix, and from the great development of the posterior side of the shell, as helping to bridge over the passage from the Bimuscular as represented by Etheria, and the Unimuscular as represented by our next genus, Mulleria.

Species 1. (Fig. 2, *a*, *b*, Mus. Brit.)

BARTELETTIA STEPHANENSIS. *Bar. testâ trigono-subreniformi, subirregulari, anticè attenuatâ, coarctatâ, difformi, costis tuberculiferis irregularibus rugatâ; medio ad marginem ventralem sinuatim contracto; posticè tumido, angulatim expanso, concentricè subrugato, tuberculis subobsoletis; externè epidermide olivaceo-fusco indutâ; marginibus anticis laqueatis; umbonibus regularibus, subquadratis, anticè vix productis.*

STEPHANSI'S BARTELETTIA. Shell trigonal-subreniform, rather irregular, anteriorly attenuated, contracted, deformed, wrinkled with irregular tuberculated ribs; in the middle sinuously contracted at the ventral margin; posteriorly tumid, angularly expanded, concentrically somewhat wrinkled, with subobsolete tubercles; externally covered with an olive-brown epidermis; anterior margin fluted; umboes regular, subquadrate, anteriorly scarcely produced.

MORICAND (Etheria). Journal of Conchology, 1856, p. 178.

Hab. River Amazon, South America.

The umbonal region or nucleus of the shell presents the appearance of a young *cardita*, with the anterior side very small. Afterwards the shell becomes irregular, slightly so at the posterior side, and very much so at the anterior side, where it is much contracted, and although produced only partially developed. The anterior muscular impression is very small, and half hidden under the thickened edge of the shell.

March, 1872.

Genus MULLERIA, *Ferrussac.*

Testa irregularis, foliacea; valdè inæquivalvis, ætate juniori libera, bimusculosa, modioliformis; ætate seniori adhærens, unimusculosa, unilateralis; intùs margaritacea. Margo cardinalis angustus, ligamentum partim internum. Impressio muscularis subrotundus, posticus. Impressio pallii usque ad marginem cardinalem continuus.

Shell irregular, foliaceous; very inequivalve, in the young stage free, bimuscular, modioliform; in the adult stage attached, unimuscular, one-sided; pearly within. Hinge margin narrow, ligament partly internal. Muscular impression somewhat rounded, posterior. Impression of the mantle continued as far as the hinge margin.

In a very early stage this shell appears to be a regularly formed bimuscular bivalve, resembling a Unio or Modiola, with very small anterior development, soon ceasing entirely. The posterior then lengthens without expanding, and by the union of the two valves a short tube is formed, at the end of which the further development and the expansion of this posterior part forms a large irregular bivalve externally resembling an Etheria. The absence of the anterior muscle-mark is accounted for by the fact that the anterior part of the shell has never been developed after the first nucleus. There seems little reason to suppose with some, that the muscular impressions have been *united*, for the mantle-mark, which in bimuscular shells passes from one muscle-mark to the other, would, in the case supposed, form a loop and rectum to the posterior muscle-mark, whereas it can be traced even into the cavity beneath the hinge, and would probably, if not obliterated, be found to reach the little anterior muscle-mark in the original nucleus.

Thus, in Etheria we have, beyond the first nucleus, simply an expansion of the posterior, to the almost entire extinction of the anterior side of the shell. The anterior muscle becomes extinct from disuse. In the preceding genus, BARTELETTIA, we have a very disproportionate development of the hinder side with a very minute anterior muscle-mark.

Species 1. (Fig. 1, *a*, *b*, *c*. Mus. Brit.)

MULLERIA LOBATA. *Mul. testâ transversè ovatâ, olivaceo-viridi, foliaceâ; valvâ inferiori plerumque complanatâ, tuberculis tubiformibus armatâ; nucleo modioliformi, minuto, margaritaceo.*

THE LOBED MULLERIA. Shell transversely ovate, olive-green foliaceous; lower valve generally flattened, armed with tube-formed tubercles Nucleus modioliform, minute, pearly.

FERRUSSAC. Mem. Mus. Hist. Nat.

Hab. River Magdala, near Bogota.

March, 1872.

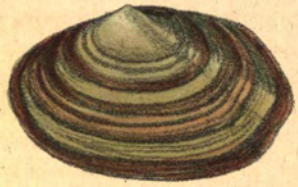
MONOGRAPH

OF THE GENUS

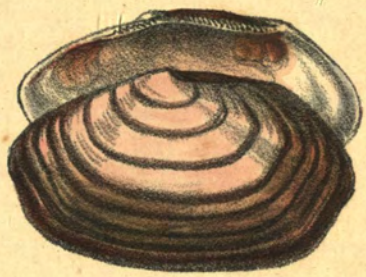
SOLENELLA AND NEILO.

"In depths beneath the dark red ocean's waves."—*Campbell.*

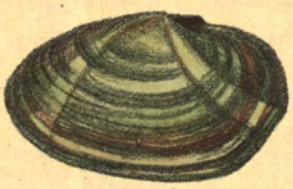
1.



2. *a.*



2. *b.*



3.

4.

Sowerby, del et lith.

Vincent Brooks Day & Son lith

SOLENELLA AND NEILO.

Genus SOLENELLA, *Sowerby*.

Testa bivalvis, bimusculosa, transversè oblonga, utrinque hians. Ligamentum externum conspicuum. Impressio pallii sinuata. Margo cardinalis anticè dentibus paucis, posticè numerosis, acutis, erectis armatus.

Shell bivalve, bimuscular, gaping at both ends. Ligament external, conspicuous. Pallæal impression sinuated. Hinge margin armed with sharp, erect teeth, few anteriorly, numerous posteriorly.

The two first published species of this genus are South American, one from Valparaiso and the other from the Falkland Islands. The new species now presented is Australian; although possessed of the sharp row of teeth so characteristic of the *Nuculidæ*, the *Solenella* have no place in the family, because they have a prominent external ligament and no cartilaginous pit.

Species 1. (Mus. Leckenby.)

SOLENELLA SUBÆQUALIS. *Sol. testâ brevi, sub-æquilaterali, utrinque subacuminatâ, viridi-olivaceâ; latere postico parum latiore latiusculo, margine dorsali rectiusculo, margine laterali declivi, ad terminum acuminato, margine ventrali sursùm acclivi; medio recto; latere antico subtrigono.*

THE SUB-EQUAL SOLENELLA. Shell short, subequilateral, rather acuminated at both ends, olive-green; posterior side a little wider, dorsal margin nearly straight, lateral margin sloped downwards, acuminated at the end; ventral margin sloped upwards, straight in the middle; anterior side subtrigonal.

SOWERBY.

Hab. Australia.

In *Solenella Norrissii*, the posterior side is the shorter; in *Sol. Cumingii* it is the longer, but in the present species the sides are nearly equal in length, the umboes being central.

Species 2. (Fig. *a*, *b*, Mus.)

SOLENELLA NORRISSII. *Sol. testâ subovatâ valdè compressâ, viridi-olivaceâ, fusco fasciatâ, intùs et prope umbones fusco-aurantiâ; latere postico recto, subquadrato, lato, ad terminum obtusè angulato; margine ventrali recto; latere antico breviore, angusto, ad terminum subacuminato, prope marginem ventralem leviter truncato.*

NORRIS'S SOLENELLA. Shell subovate, much compressed, olive-green brown-banded, within and near the umboes orange-brown; posterior side straight, subquadrate, wide, obtusely angulated; ventral margin straight; anterior side shorter, narrow, subacuminated at the end, slightly truncated near the ventral margin.

SOWERBY. Proc. Zool. Soc., 1832.

Malletia Chilensis, Desmarest.

Cteroconchus Nuculoides, Blainville.

Hab. Valparaiso.

In this species the umboes are much nearer the anterior than the posterior end.

Species 3. (Mus. Cuming in Brit.)

SOLENELLA CUMINGII. *Sol. testâ ovatâ, convexiùsculâ, fasciis pallidis biradiatâ; latere postico breviusculo, lato, infrà obliquè subtruncato, ad terminum obtusissimè angulato; margine ventrali parum convexo, latere postico longiùsculo, rotundatim acuminato.*

CUMING'S SOLENELLA. Shell ovate, rather convex, rayed with two pale bands; posterior side rather short, wide, obliquely subtruncated beneath, very obtusely angular at the end; ventral margin a little convex, posterior side rather lengthened, roundly acuminated.

HANLEY. Proceedings of the Zoological Society, 1860.

Hab. Falkland Islands.

The position of the umboes in this species is exactly the reverse of that in the preceding, being nearer the posterior end.

October, 1870.

NEILO.

Genus NEILO, Adams.

Testa bivalvis, bimusculosa, transversè oblonga, concentricè lirata, utrinque clausa. Margo cardinalis dentibus numerosis erectis utrinque armatus. Ligamentum externum, conspicuum.

Shell bivalve, bimuscular, transversely oblong, concentrically ridged, closed at both ends. Hinge margin armed with numerous erect teeth on both sides. Ligament external, conspicuous.

Species. (Fig. 4, Mus. Cuming in Brit.)

NEILO AUSTRALIS. *Nei. testâ subrhombeâ, ventricosâ, concentricè tenuiter liratâ, inæquilaterali; latere postico oblongo, recto, obliquè angulato, inter angulum umbonalem et marginem dorsalem depresso; margine dorsali producto, margine terminali suprà rostrato, infrà subtruncato; umbonibus prominentibus, margine ventrali rectiusculo; latere antico brevi, supernè angulato.*

THE AUSTRALIAN NEILO. Shell subrhomboidal, ventricose, concentrically finely lirated, inequilateral; posterior side oblong, straight, obliquely angular, depressed between the umbonal angle and the dorsal margin; dorsal margin produced, terminal margin rostrated above, subtruncated beneath; umboes prominent, ventral margin rather straight; anterior side short, angular above.

QUOY ET GAIMARD (Nucula), Voyage de l'Astrolabe.
Neilo Cumingii, A. Adams.
Ctenoconcha navicula, Valenciennes.
Hab. New Zealand.

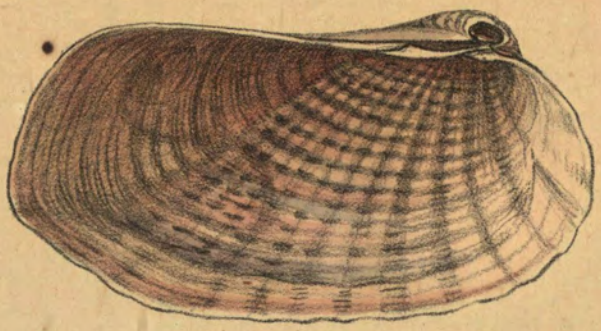
This shell has very much the form of the *Arctic yoldia*, but like *Solenella*, it presents the character of an external ligament and no cartilage pit.

MONOGRAPH

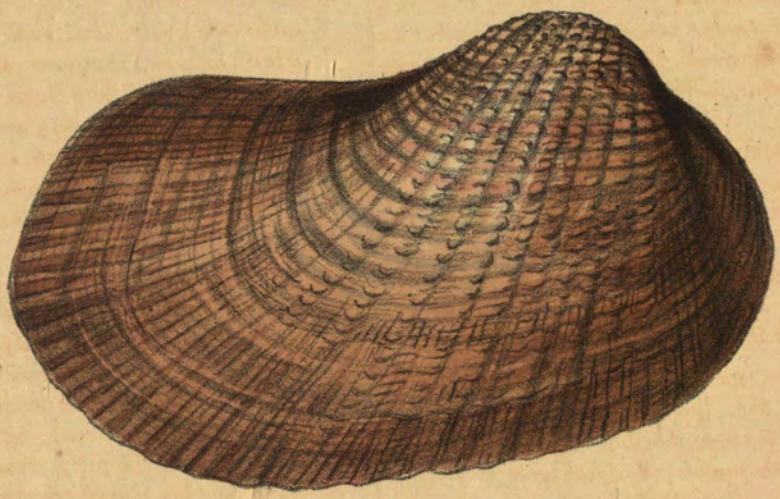
OF THE GENUS

PHOLADOMYA.

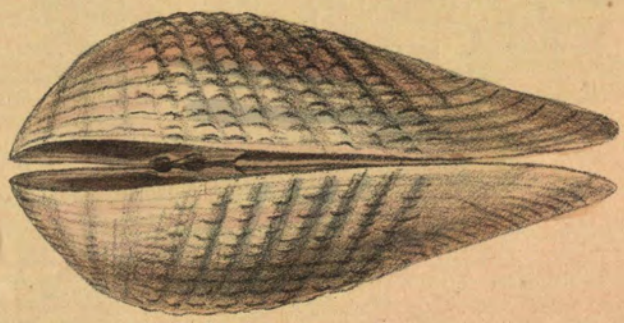
"Frail, but of force to withstand,
Year upon year the shock
Of cataract seas that snap
The three-decker's oaken spine."—*Tennyson.*



1a



1b



1c

Sowerby del et lith.

Vincent Brooks Day & Son Imp

PHOLADOMYA.

PLATE I.

Genus PHOLADOMYA, Sowerby.

Testa bivalvis, æquivalvis, transversè oblonga, tenuis, utrinque hians, costis radiata, anticè brevibus, posticè productis, subtruncatis. Cardo foveolâ elongato-subtrigonâ et laminâ marginali in utrâque valvâ. Ligamentum externum, breviusculum. Impressiones musculares duæ, indistinctæ; pallii impressio latè sinuata.

Shell, bivalve, equivalve, transversely oblong, thin, gaping on both sides, rayed with ribs, short in front, produced and subtruncated posteriorly. Hinge with an elongated, subtrigonal pit and a marginal lamina in each valve. Ligament external, rather short. Muscular impressions two, indistinct; impression of the mantle widely sinuated.

The one recent species known of this singularly isolated genus is from the island of Tortola, on the shores of which it is sometimes, but very rarely, thrown up by violent ocean storms. It is a revival of a very ancient fossil form, of which there are numerous well-known species. The worn hole in the umboes observed in all the specimens, results from their close approximation, causing them to rub against each other with the action of the valves.

Species (Fig. *a*, *b*, *c*, Mus. Brit.)

PHOLADOMYA CANDIDA. *Pho. testâ papyraceâ, albâ, epidermide tenui, lineatâ, indutâ, subiridescenti, ventricosâ, rugosâ, transversè oblongâ, latere antico brevi, subrotundâ, latè hianti, rugatâ, medio costis obliquis noduliferis, intùs foveolatis radiatâ; latere postico producto, latè hianti, sublævigato, subobliquè truncato, margine dorsali rectiusculo, ventrali posticè subinflato; umbonibus prominentibus, approximatis, perforatis.*

THE WHITE PHOLADOMYA. Shell papyraceous, white, covered with a thin striped epidermis, subiridescent, ventricose, rugose, transversely oblong; anterior side short, a little rounded, broadly gaping, wrinkled, rayed in the middle with oblique noduliferous ribs; posterior side produced, widely gaping, rather smooth, rather obliquely truncated, dorsal margin rather straight, ventral posteriorly a little inflated; umboes prominent, approximate, perforated.

SOWERBY. Genera of Recent and Fossil Shells.

Hab. Island of Tortola.

November, 1872.

MONOGRAPH

OF THE GENUS

SUCCINEA.

"I come from haunts of coot and hern."—*Tennyson.*

1.a.

2.a.

2.b.

1.b.

3.

4.

5.a.

6.

7.

5.b.

Sowerby, del. et lith.

Vincent Brooks Day & Son, Imp.

SUCCINEA.

PLATE I.

Genus SUCCINEA, *Draparnaud.*

Testa ovato-pyramidata, cornea, imperforata, spira brevi, anfractu ultimo magnâ; apertura magna, labio columellari frequenter uniplicato; labio externo acuto.

Shell ovate-pyramidal, horny, imperforate, spire short, last whorl large; aperture large, columellar lip frequently with a single plait; outer lip sharp.

Lyn. Lucena, Oken. *Amphibulimus*, Blainville.

The shells of this genus are not to be distinguished from those of *Lymnæa* by any definable character, yet most of them, following the type *Succinea putris*, are of a more glossy and transparent texture. The animal, however, differs materially from *Lymnæa*, and is generally too large to be wholly withdrawn within the shell. It is amphibious, but generally more inclined to the aërial than to the aquatic element, and lives on reeds and other plants on the borders of rivers. In all parts of the world, wherever there are rivers and river plants, there are *Succineæ* to be found, especially in temperate climates, where they are most common. Some of the Indian species are among the handsomest.

Species 1. (Mus. Benson.)

SUCCINEA COLLINA. *Suc. testâ oblongo-ovatâ, corneo-rubescenti, semipellucidâ, lævigatâ, nonnunquam rugatâ; spirâ elevatâ, anfractibus distinctis, rotundatis; anfractu ultimo magno, oblongo, propè suturam tumido; aperturâ oblongo-ovatâ, labio columellari subreflexo, vix plicato.*

THE HILL SUCCINEA. Shell oblong-ovate, reddish-horny, semipellucid, smooth, sometimes wrinkled; spire elevated, whorls distinct, rounded; last whorl large, oblong, tumid near the suture; aperture oblong-ovate, columellar lip a little reflected, scarcely plaited.

BLANFORD. MS.

Hab. Mahabaleshwar, India.

Species 2. (Mus. Benson.)

SUCCINEA INDICA. *Suc. testâ angustâ, pyramidatâ, stramineâ, liris conspicuis rugatâ; spirâ elevatâ, attenuatâ, acuminatâ; anfractu ultimo posticè attenuato anticè ferè angulato; aperturâ subpyramidatâ, intùs fuscâ.*

THE INDIAN SUCCINEA. Shell narrow, pyramidal, straw-coloured, wrinkled with conspicuous ridges; spire elevated, attenuated, acuminated; last whorl posteriorly, attenuated, anteriorly almost angular; aperture subpyramidal, brown within.

PFEIFFER. Proc. Zool. Soc., 1849, p. 133.

Hab. Bheemthal, India.

Species 3. (Mus. Benson.)

SUCCINEA ELEGANS. *Suc. testâ elongatâ, angustâ, subpyramidatâ, succineâ, translucidâ, lævigatâ; spirâ elevatâ, anfractibus productis, rotundato-ovatis; anfractu ultimo, versus apicem elongato; aperturâ subpyramidatâ, breviusculâ.*

THE ELEGANT SUCCINEA. Shell elongated, narrow, subpyramidal, amber-coloured, transparent, smooth; spire elevated, whorls produced, roundly-ovate; last whorl elongated towards the apex; aperture subpyramidal, rather short.

RISSO. Vol. iv. p. 59.

Hab. England. Europe generally.

The distinctness and roundness of the whorls of the spire marks a specific difference between this species and *Succinea putris* and *S. gracilis*. In both of the latter the spiral whorls are sloped and not rounded.

Species 4. (Mus. Benson.)

SUCCINEA CRASSIUSCULA. *Suc. testâ rotundato-ovatâ; pallidè corneâ, lævigatâ, crassiusculâ; spirâ exsertâ, anfractibus rotundis nonnunquam rubescen-*

tibus, anfractu ultimo ovato; aperturâ longitudine mediocri, anticè expansâ, labio interno reflexo.

The thicker Succinea. Shell rounded-ovate; pale horn, smooth, rather thick; spire produced, whorls rounded, sometimes rather red, last whorl ovate; aperture of medium length, anteriorly expanded, inner lip reflected.

Benson. MS.

Hab. Bundelkhund, Punjaub.

The texture of this shell is a little thicker than most of the species.

Species 5. (Fig. *a*, *b*, Mus. Benson.)

Succinea Girnarica. *Suc. testâ magnâ, ovato-subpyramidatâ, fusco-rubescenti, lævigatâ, semiopacâ; spirâ exsertâ, pyramidatâ, anfractibus rotundatis, distinctis; anfractu ultimo magno, versus suturam attenuato, infrà subangulato; aperturâ magnâ, anticè productâ, expansâ; labio columellari arcuato.*

The Girnar Succinea. Shell large, ovate-subpyramidal, reddish brown, smooth, semi-opaque; spire exserted, pyramidal, whorls rounded, distinct; last whorl large, attenuated towards the suture, subangular below; aperture large, anteriorly produced, expanded; columellar lip arched.

Theobald. Jour. Asiat. Soc., Bengal.

Hab. Girnar Hills, Gujerat.

One of the finest and largest of all the species, presenting in some varieties a beautiful claret purple or pink colour.

Species 6. (Mus. Benson.)

Succinea Baconi. *Suc. testâ subrotundâ, pallidè stramineâ, vitreâ, tenuissimâ, translucidâ; spirâ parvâ, anfractu secundo inflato; anfractu ultimo maximo, globoso; aperturâ maximâ, expansâ.*

Bacon's Succinea. Shell subrotund, pale straw, glassy, very thin, transparent; spire small, second whorl inflated; last whorl very large, globose; aperture very large, expanded.

Pfeiffer. Proc. Zool. Soc., 1854, p. 298.

Hab. Calcutta.

A very light, bubble-like species.

Species 7. (Mus. Benson.)

Succinea Bensoni. *Suc. testâ parvâ, solidiùsculâ, subviridi, ovatâ, obliquâ, lævigatâ; spirâ elevatâ, anfractibus subovatis, inflatis; anfractu ultimo ovato; aperturâ oblongâ, posticè propè suturam convexo, anticè subexpanso.*

Benson's Succinea. Shell small, rather solid, greenish, ovate, oblique, smooth; spire elevated, whorls rather oval, inflated; last whorl oblong, posteriorly convex near the suture, anteriorly slightly expanded.

Pfeiffer. Proc. Zool. Soc., 1849, p. 133.

Hab. Moradabad.

8

9 a

9 b

10 a

11

12

10 b

13

14

15

Sowerby del. et lith.

Vincent Brooks Day & Son, Imp.

SUCCINEA.

PLATE II.

Species 8. (Mus. Sowerby.)

SUCCINEA CAMPESTRIS. *Suc. testâ brevi, ventricosâ, albidâ, opacâ, fasciis longitudinalibus subdiaphanis distanter variegatâ; spirâ parvâ, acuminatâ, anfractibus 4, ultimo lato, prope suturam tumidiusculo.*

THE FIELD SUCCINEA. Shell short ventricose, white, opake, varied at distant intervals with longitudinal subdiaphanous bands; spire small, acuminated, whorls 4; the last wide, rather tumid near the suture.

SAY. Pffr. Symb. Heliceorum. Pl. 4, f. 12.

Hab. New York.

Species 9. (Mus. Benson.)

SUCCINEA SEMISERICEA. *Suc. testâ brevi, obliquâ, ventricosâ, subflavidâ, opacâ, tenuiter longitudinaliter striatâ; spirâ productâ, anfractu penultimo obliquè subpyramidato, ultimo obliquè ventricoso; aperturâ anticè expansâ.*

THE HALF-SILKY SUCCINEA. Shell short, oblique, ventricose, yellowish opake, finely longitudinally striated; spire produced, penultimate whorls obliquely subpyramidal, the last obliquely ventricose, aperture anteriorly expanded.

GOULD. Proc. Bost. Soc. Nat. Hist. 1846, vol. ii. p. 100.

Hab. Tavoy, Birmah.

The striæ give a sort of texture like that of corded silk to this shell.

Species 10. (Fig. *a*, *b*, Mus. Jeffreys, &c.)

SUCCINEA PUTRIS. *Suc. testâ obliquè ovato-elongatâ, ventricosâ, subdiaphanâ, succineâ, lævigatâ, nitenti; spirâ pyramidatâ, anfractu penultimo producto; aperturâ magnâ, obliquâ, labio interno subarcuato, elongato.*

THE RIVER-DRAIN SUCCINEA. Shell obliquely ovate elongated, ventricose, subdiaphanous, amber coloured, smooth, shining; spire pyramidal, last whorl produced; aperture large, oblique; inner lip rather arched; elongated.

LINNÆUS (Helix). Systema Naturæ.

Succinea amphibia, And.

Succinea Pfeifferi, Rossmasler.

Succinea brumeari, Steutz.

Succinea bullinæ, Zejgler.

Succinea calycina, Menke.

Succinea intermedia, Beau.

Hab. Europe, by the side of ditches and river drains.

This is the more oval form of the species if *S. gracilis* is to be considered as one with it.

Species 11. (Mus. Benson.)

SUCCINEA PLICATA. *Suc. testâ obliquè oblongâ, crassiusculâ, plicis validis longitudinaliter rugatâ, pallidâ; spirâ exsertâ, anfractu penultimo perelongato; aperturâ trapeziformi, obliquâ, labio externo crassiusculo.*

THE PLICATED SUCCINEA. Shell obliquely oblong, rather thick, longitudinally wrinkled with strong plaits, pale; spire inserted, last whorl much elongated; aperture trapeziform, oblique, outer lip rather thick.

BLANFORD. Asiatic Society of Bengal. 1865, pl. 2. vol. xxxiv. p. 80.

Hab. Tongoop, Aracan.

Species 12. (Mus. Brit.)

SUCCINEA PICTA. *Suc. testâ latâ, obliquè expansâ, diaphanâ, irregulariter longitudinaliter rugatâ, subviridi, intùs subcæruleo-albidâ, subopacâ, subiridescenti; spirâ parvâ, rotundâ, rubescenti; aperturâ maximâ, ovatâ.*

THE PAINTED SUCCINEA. Shell broad, obliquely expanded, diaphanous, irregularly longitudinally wrinkled, subviridous, within bluish-white, subopake, subiridescent, spire small, rounded, reddish; aperture very large, ovate.

H. ADAMS. Proc. Zool. Soc., 1849, p. 199.

Hab. Diana's Peak, St. Elena.

The inside of the mouth has a silvery metallic appearance.

Species 13. (Mus. Benson.)

SUCCINEA ACUMINATA. *Suc. testâ pyramidatâ, acuminatâ, succineâ, tenui; spirâ pyramidatâ, anfractibus duobus, parvis, lateribus rectis; aperturâ pyramidatâ, anticè obliquè expansâ, labio columellari rectiùsculo.*

THE ACUMINATED SUCCINEA. Shell pyramidal, acuminated, amber-coloured, thin; spire pyramidal, whorls two, small, sides straight; aperture pyramidal, obliquely expanded in front, columellar lip rather straight.

BLANFORD. Proc. Zool. Soc., 1869, p. 449.

Hab. Momein in Unan, India.

Resembling the European *Succinea putris*, but more straight-sided and pyramidal.

Species 14. (Mus. Benson.)

SUCCINEA RUTILANS. *Suc. testâ subrufo-succineâ, subdiaphanâ, tenui, rectiùsculâ, ovato-ventricosâ, spirâ obtusâ, anfractibus vix tribus, penultimo ventricoso; aperturâ subovatâ, labio interno crassiùsculo, arcuato.*

THE RED SUCCINEA. Shell reddish amber, subdiaphanous, thin, rather straight, ovate ventricose, spire obtuse, whorls scarcely three, the last ventricose; aperture subovate, inner lip rather thick, arched.

BLANFORD. Journ. Asiatic Society of Bengal, 1870, p. 298; Monograph of Helices, vol. iv. p. 804.

Hab. Calcutta.

Species 15. (Mus. Sowerby.)

SUCCINEA STRIGATA. *Suc. tenuiter liratâ, pallidè fuscâ, tenui, breviusculâ, pyramidatâ, spirâ productâ, anfractibus prominentibus, subovatis, penultimo et ultimo ventricosis, aperturâ obliquâ, subovatâ, longitudine mediocri, labio externo superne obliquo, labio columellari vix reflexo.*

THE STRIPED SUCCINEA. Shell finely lirate, pale-brown, thin, rather short, pyramidal, spire produced, whorls prominent, subovate, the penultimate and last ventricose, aperture oblique of middling length, the outer lip oblique above; columellar lip scarcely reflected.

PFEIFFER. Proc. Zool. Soc., 1854, p. 132.

Hab. Australia.

16

17

18

19

20 a

20 b

21

22 a

22 b

a

23

b

Sowerby del. et lith.

Vincent Brooks Day & Son. Imp.

SUCCINEA.

PLATE III.

Species 16. (Mus. Jeffreys, &c.)

SUCCINEA GRACILIS. *Suc. testâ obliquè elongatâ, angustâ, diaphanâ, succineâ, lævigatâ, nitenti, spirâ eleganter productâ, anfractu penultimo attenuato; aperturâ posticè attenuatâ, obliquâ; labio interno subarcuato, acuto, elongato.*

THE SLENDER SUCCINEA. Shell obliquely elongated, narrow, diaphanous, amber-coloured, smooth, shining; spire elegantly produced, last whorl attenuated; aperture posteriorly tapering, oblique; inner lip somewhat arched, elongated.

ALDER. Magazine of Zoology and Botany, vol. ii. p. 106.

Hab. England and Europe generally.

It is doubtful whether there is a real and permanent distinction between this species and *Succinea putris.*

Species 17. (Mus. Sowerby.)

SUCCINEA TOTTENIANA. *Suc. testâ obliquè ventricosâ, diaphanâ, subviridè succineâ; spirâ brevi, pauci-spiratâ, anfractibus subovatis, prominentibus, ultimo obliquo, inflato, anticè obliquè expanso; labio interno arcuato.*

TOTTEN'S SUCCINEA. Shell obliquely ventricose, diaphanous, greenish amber; spire short, with few volutions, whorls subovate, prominent, the last oblique, inflated, obliquely expanded in front; inner lip arched.

LEA. Pffr. Symb. Heliceorum, p. 132.

Hab. Cape Elizabeth.

Species 18. (Mus. Sowerby.)

SUCCINEA OVALIS. *Suc. testâ attenuatâ, subpyramidatâ, translucidâ, subaurantio-succineâ, tenuissimâ, spirâ acuminatâ, subretrorsâ, anfractu penultimo attenuato, ultimo obliquè subpyramidato; aperturâ anticè obliquè subexpanso.*

THE OVAL SUCCINEA. Shell attenuated, subpyramidal, translucid, rather orange-amber, very thin; spire acuminated, a little turned backwards, the penultimate whorl attenuated, the last obliquely subpyramidal; aperture somewhat expanded obliquely in front.

SAY. In Gould's Invertebrata of Massachusetts, p. 194, f. 125.

Hab New York.

Much like the European *Succinea gracilis*, but with the slope of the sides more gradual.

Species 19. (Mus. Benson.)

SUCCINEA DAUCINA. *Suc. testâ rectiùsculâ, subovatâ, subaurantio-fuscâ, tenui, lævigatâ, spirâ elevatâ, anfractibus attenuatis; aperturâ longitudine mediocri, anticè latiùsculo, labio externo prope suturam tumido, ad medium rectiùsculo, labio interno subreflexo.*

THE LITTLE CARROT SUCCINEA. Shell rather straight, subovate, rather orange-brown, thin, smooth; spire elevated, whorls attenuated; aperture of medium length, rather wide anteriorly, outer lip tumid near the suture, rather straight at the middle, inner lip subreflected.

PFEIFFER. Proc. Zool. Soc., 1854, p. 298.

Hab. Calcutta.

Species 20. (Fig. *a*, *b*, Mus. Benson.)

SUCCINEA VITRÆA. *Suc. testâ parviùsculâ, albâ, translucidâ, tenuissimâ, ventricoso-ovatâ, spirâ acuminatâ, anfractibus rotundatis; aperturâ ovatâ, longitudine mediocri, labio interno subincrassato, subtortuo.*

THE GLASSY SUCCINEA. Shell rather small, white, transparent, very thin, ventricose, oval; spire acuminated, whorls rounded; aperture ovate, of medium length, inner lip rather thickened, a little tortuous.

PFEIFFER. Proc. Zool. Soc., 1834, p. 298.

Hab. Calcutta.

Species 21. (Mus. Brit.)

SUCCINEA PATULA. *Suc. testâ latâ, subquadratâ, crassiùsculâ, posticè purpurascenti, anticè subviridi; spirâ brevi, subretrorsâ, anfractu ultimo superiè angulato; aperturâ magnâ, patulâ, quadratâ; labio externo posticè angulato, latere recto; labio interno subreflexo, tortuo.*

THE PATULOUS SUCCINEA. Shell broad, subquadrate, rather thick, posteriorly purplish, anteriorly rather green; spire short, slightly recurved, last whorl angular above; aperture large, patulous, quadrate; outer lip posteriorly angular, straight at the side; inner lip a little reflected, tortuous.

BRUGUIERI. Encyclopedia Methodica.

Amphibulima cucullata, Lamarck.

Hab. ——?

Species 22. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA VERMETA. *Suc. testâ subovatâ, rectiùsculâ, pyramidatâ, corneâ, subdiaphanâ; spirâ productâ, anfractibus ventricosis, ovato-rotundis, ultimo ovato; aperturâ breviùsculâ; labio interno tortuo.*

THE WORM-LIKE SUCCINEA. Shell subovate, rather straight, pyramidal, horny, subdiaphanous; spire produced, whorls ventricose, ovately rounded, the last oval; aperture rather short; inner lip tortuous.

SAY. New Harmony Disseminator.

Succinea avara, Pfeiffer.

Hab. New Harmony, United States.

Species 23. (Fig. *a*, *b*, Mus. Jeffreys, &c.)

SUCCINEA OBLONGA. *Suc. testâ parvâ, solidiusculâ, lævi, ovatâ, corneâ, ad spiram subrubescenti; spirâ prominulâ, anfractibus subrotundis, ultimo ovato; aperturâ breviùsculâ, subovatâ, labio externo anticè subexpanso, labio interno tenui, subarcuato.*

THE OBLONG SUCCINEA. Shell small, rather solid, smooth, ovate, horny, reddening towards the spire; spire rather prominent, whorls rather rounded, the last ovate; aperture rather short, subovate, outer lip rather expanded in front, inner lip thin, a little arched.

DRAPARNAUD. Moll. Forest. et Fluv.

Hab. England and France.

24

25 a

35 b

26

27 a

27 b

28

29 a

29 b

30

Sowerby, del et. lith.

Vincent Brooks Day & Son, Imp.

SUCCINEA.

PLATE IV.

Species 24. (Mus. Brit.)

SUCCINEA SUBGRANOSA. *Suc. testâ parvâ, ovatâ, opacâ, subgranoso-rugatâ, pallidè corneâ; spirâ elevatâ, acuminatâ, anfractibus tribus, rotundatis; aperturâ flavidâ, anticè obliquè productâ, labio columellari subconspicuè tortuo.*

THE SUBGRANOSE SUCCINEA. Shell small, ovate, opaque, rather granularly roughened, pale horny; spire elevated, acuminated, whorls three, rounded; aperture yellowish, anteriorly obliquely produced, columellar lip rather conspicuously tortuous.

PFEIFFER. Proc. Zool. Soc., 1849, p. 132.

Hab. India.

A little species with rounded whorls resembling the British Succinea oblonga.

Species 25. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA RUBESCENS. *Suc. testâ obliquè ovatâ, ventricosâ, leviter longitudinaliter striatâ, opacâ, subpurpureo-roseâ, propè marginem et ad spiram aurantiâ; aperturâ albido-roseâ, iridescenti; spirâ exsertâ, obtusiùsculâ, anfractibus duobus; aperturâ obliquâ, ovatâ, aurantio marginatâ, labio interno subarcuato, anfractu ultimo magno.*

THE REDDISH SUCCINEA. Shell obliquely ovate, ventricose, lightly longitudinally striated, opaque, purplish-rose, orange near the margin and at the spire; aperture whitish-rose, iridescent; spire exserted, rather obtuse, whorls two; aperture oblique, ovate, margined with orange, inner lip rather arched, last whorl large.

DESHAYES. Guérin, Magasin de Conchyliologie, 1830, pl. 4.

Hab. Guadeloupe.

Species 26. (Mus. Brit.)

SUCCINEA CALYCINA. *Suc. testâ gracillimâ, elongatâ, tenuissimâ, pallidè corneâ, pellucidâ, nitenti; spirâ productâ, acuminatâ, anfractibus apicalibus parvis, fuscis, penultimo attenuato; aperturâ elongatâ, angustâ, anticè subexpansâ.*

THE CHALICE SUCCINEA. Shell very slender, elongated, very thin, pale horny, pellucid, shining; spire produced, acuminated, apical whorls small, brown, the last attenuated, aperture elongated, narrow, anteriorly slightly expanded.

MENKE. Synopsis, ed. 2, p. 14.

Hab. Germany.

This species is so long and narrow, that it can scarcely be a mere variety of *Succinea Pfeifferi*, as some supposed.

Species 27. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA APPROXIMATA. *Suc. testâ elongatâ, subpyriformi, vividè succineâ, pellucidâ, versus apicem rubescenti, apicè acuminato, anfractibus rotundatis; aperturâ obliquâ subpyramidatâ, labio columellari tenui, arcuato.*

THE APPROXIMATE SUCCINEA. Shell elongated, subpyriform, bright amber, pellucid, reddish towards the apex, whorls rounded; aperture oblique subpyramidal, columellar lip thin, arched.

SHUTTLEWORTH —— ?

Hab. Sandwich Islands.

Less oblique and with more rounded whorls than our British *Succinea gracilis*, which in other respects it resembles.

(Species 28. Mus. Brit.)

Succinea lauta. *Suc. testâ subovatâ, magnâ, tenui subtranslucidâ, pallidè corneâ, tenuiter liratâ; spirâ elevatâ, fulvidâ, anfractibus apicalibus parvis, rotundatis, ultimo magno, ventricoso; aperturâ magnâ, latâ, ovatâ, subobliquâ.*

The handsome Succinea. Shell subovate, large, thin, rather transparent, pale horny, finely ridged; spire elevated, yellowish-brown, apex whorls small, rounded, the last large, ventricose; aperture large, wide, ovate, rather oblique.

Gould ——?

Hab. Hakodade.

A rather fine species, more ventricose and less oblique than *Succinea putris*, which it resembles in general appearance.

Species 29. (Fig. *a*, *b*, Mus. Brit.)

Succinea punctata. *Suc. testâ subpatulâ, latâ, aureo-fuscâ et flavidâ, punctis albidis seriatim dispositis ornatâ, leviter liratâ, lineis castaneis notatâ; spirâ brevissimâ, obtusâ, anfractu penultimo expanso; aperturâ magnâ, anticè expansâ.*

The spotted Succinea. Shell rather patulous, broad, orange-brown and yellow, ornamented with whitish spots disposed in rows, lightly wrinkled, marked with chestnut lines; spire very short, obtuse, last whorl expanded; aperture large, expanded in front.

Pfeiffer. Proc. Zool. Soc., 1854, p. 297.

Hab. Sandwich Islands.

Species 30. (Mus. Brit.)

Succinea Donettii. *Suc. testâ ovato-acuminatâ, subventricosâ, subopacâ, roseo-subpurpureâ et corneâ; spirâ brevìusculâ, anfractu ultimo ventricoso, anticè subexpanso, aperturâ supernè subangulatâ, anticè subexpansâ, intùs roseâ.*

Donetti's Succinea. Shell ovately acuminated, rather ventricose, subopaque, purplish-rose and horny; spire rather short, last whorl ventricose, anteriorly subexpanded, aperture rather angular above, anteriorly subexpanded, rose-coloured within.

Pfeiffer ——?

Hab. Coquimbo.

31

32 a

32 b

33

34 a

34 b

35

36 a

36 b

37

SUCCINEA.

PLATE V.

Species 31. (Mus. Cuming in Brit.)

SUCCINEA SOLIDULA. *Suc. testâ ventricosâ, subovatâ, leviter liratâ, castaneo-corneâ; spirâ exsertâ, anfractibus fuscis, ventricosis, ultimo subinflato; aperturâ pallidâ, longitudine mediocri, labio columellari uniplicato, valdè arcuato, labio externo propè suturam subangulato, anticè obliquè expanso.*

THE SOLID SUCCINEA. Shell ventricose, subovate, lightly ridged, chestnut-horny; spire exserted, whorls brown, ventricose, the last rather inflated; aperture pale, of medium length, columellar lip single plaited, strongly curved; outer lip slightly angular near the suture, anteriorly obliquely subexpanded.

PFEIFFER. Proc. Zool. Soc., 1849, p. 134.

Hab. ——?

The locality of this species does not appear to be known. It was named from specimens in the late Mr. Cuming's collection.

Species 32. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA EQUINOCTIALIS. *Suc. testâ subovato-acuminatâ, tenuissimâ, translucidâ, pallidè corneâ, leviter liratâ; spirâ subroseo-fuscâ, acuminatâ; anfractibus duobus, ultimo subventricoso, propè suturam tumidiùsculo; aperturâ latâ, anticè expansâ, labio columellari tenui, arcuato.*

THE EQUINOCTIAL SUCCINEA. Shell subovate-acuminate, very thin, transparent, pale horny, lightly ridged, spire pinkish-brown, acuminated; whorls two, the last subventricose, rather swelled near the suture; aperture wide expanded in front, columellar lip thin, arched.

D'ORBIGNY. L'Amérique Méridionale.

Hab. South America.

A very transparent shell, showing a beautifully ridged surface.

Species 33. (Mus. Brit.)

SUCCINEA LATIOR. *Suc. testâ pyramidatâ, succineâ, tenui, subpellucidâ; spirâ attenuatâ, anfractibus productis, subpyramidatis, propè suturam tumidis; aperturâ elongatâ, anticè expansâ; labio interno uniplicato, arcuato.*

THE WIDER SUCCINEA. Shell pyramidal, amber coloured, thin, subpellucid; spire attenuated, whorls produced, subpyramidal, tumid near the suture; aperture elongated, expanded anteriorly; inner lip with one plait, arched.

C. B. ADAMS. Conchological Contributions, p. 38.

Hab. Jamaica.

Species 34. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA MAMMILLATA. *Suc. testâ obliquè ventricosâ, opacâ, lævigatâ, corneâ, epidermide flavido-fusco indutâ, vix rugatâ; spirâ obtusâ, anfractibus apicalibus mammillatis, rubescentibus; aperturâ fulvâ, ovato-oblongâ, labio externo ad suturam deflexo; labio interno uniplicato, leviter arcuato.*

THE MAMMILLATED SUCCINEA. Shell obliquely ventricose, opaque, smooth, horny, covered with a yellowish-brown epidermis, scarcely wrinkled; spire obtuse, apex whorls mammillated, reddish; aperture fulvous, ovate oblong, outer lip bent downwards at the suture; inner lip single-plaited, slightly arched.

BENSON ——?

Hab. Chili.

Species 35. (Mus. Brit.)

SUCCINEA PUSILLA. *Suc. testâ parvâ, sordidè corneâ, lævigatâ, subpellucidâ; spirâ ferè aperturam longitudine æquanti, anfractibus paucis, rotundatis, ultimo magno, ventricoso; aperturâ subquadratâ, labio externo propè suturam deflexo, labio columellari breviùsculo, rectiùsculo.*

The dwarf Succinea. Shell small, dingy horn coloured, smooth, rather pellucid; spire nearly equalling the aperture in length, whorls few, rounded, the last large, ventricose; aperture subquadrate, outer lip bent downwards near the suture, columellar lip rather short, rather straight.

Pfeiffer. Proc. Zool. Soc., 1849, p. 134.

Hab. S. America.

Species 36. (Fig. *a*, *b*, Mus. Cuming in Brit.)

Succinea Cumingii. *Suc. testâ ovatâ, patulâ, obliquâ, opacâ, lævigatâ, roseâ, epidermide aurantio-fusco indutâ, vel olivaceâ, lineis castaneis flexuosis notatâ; spirâ brevissimâ, anfractu unico subcelato; aperturâ maximâ rosaceâ, obliquè expansâ, labio columellari tenui, reflexo, arcuato.*

Cuming's Succinea. Shell ovate, patulous, oblique, opaque, smooth, rosy, covered with an orange-brown epidermis, marked with flexuous chestnut lines; spire very short, with a partly concealed single whorl, aperture large, rosy, obliquely expanded, columellar lip thin, reflected, arched.

Pfeiffer. MS. in Cum. Coll.

Hab. Juan Fernandez.

Of a very remarkable patulous form.

Species 37. (Mus. Brit.)

Succinea Fernandi. *Suc. testâ parvâ, subrugosâ, opacâ, albidâ, ad latera subflavidâ, punctis albidis inconspicuis notatâ; spirâ rubro-castaneâ, anfractibus rotundatis, ultimo ventricoso; aperturâ longitudine mediocri, intùs pallidâ.*

The Fernandez Succinea. Shell small, subrugose, opaque, white, yellowish at the sides, marked with white inconspicuous spots; spire reddish-chestnut, whorls rounded, the last ventricose; aperture of medium length, pale within.

MS. Brit. Mus.

Hab. Juan Fernandez.

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Sowerby del et lith.

Vincent Brooks Day & Son, Imp.

SUCCINEA.

PLATE VI.

Species 38. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA MAGELLANICA. *Suc. testâ subrotundatâ, subopacâ, inflatâ, corneâ, rubro-fusco tinctâ, lævigatâ; spirâ breviusculâ, anfractibus duobus, rotundatis, ultimo inflato; aperturâ obliquâ, ovatâ, labio interno valdè arcuato et reflexo, anticè lato.*

THE MAGELLAN SUCCINEA. Shell rather rounded, subopake, inflated, horny, tinted with reddish brown, smooth; spire rather short, whorls two, rounded, the last inflated; aperture oblique, ovate, inner lip much arched and reflected, broad anteriorly.

GOULD. MS.

Hab. Magellan.

Species 39. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA MARGARITA. *Suc. testâ parvâ, gracili, subpyramidatâ, obscurè succineâ, lævigatâ; spirâ elevatâ, anfractu apicali rubescenti, parvo, penultimo attenuato; aperturâ obliquâ, anticè productâ, labio columellari uniplicato.*

THE PEARL SUCCINEA. Shell small, slender, subpyramidal, dull amber-coloured, smooth; spire elevated, apex whorl reddish, small, the last attenuated; aperture oblique, anteriorly produced, columellar lip with a single plait.

PFEIFFER. Proc. Zool. Soc., 1853, p. 60.

Hab. St. Domingo.

Species 40. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA SALLEANA. *Suc. testâ elongatâ, cymbæformi, oblongâ, subdiaphanâ, subroseâ vel pallidè succineâ, fusco-rubescenti tinctâ; spirâ minutâ, anfractibus duobus rubescentibus, anfractu ultimo elongato, amplo; aperturâ elongatâ obliquâ, anticè subexpansâ.*

SALLE'S SUCCINEA. Shell elongated, boat-shaped, oblong, nearly diaphanous, rather pink or pale amber, tinted with reddish brown; spire very small, with two reddish whorls, last whorl elongated, full; aperture elongated, oblique, anteriorly subexpanded.

PFEIFFER. Proc. Zool. Soc., 1849, p. 133.

Hab. New Orleans.

The peculiar form of this graceful shell will prevent its being confounded with any other.

Species 41. (Mus. Brit.)

SUCCINEA SANCTÆ HELENÆ. *Suc. testâ obliquâ subglobosâ, supernè roseo-purpureâ, infrà olivaceo-fuscâ, lævigatâ, subopacâ; spirâ brevissimâ, anfractibus minutis; anfractu ultimo ventricoso; aperturâ magnâ, anticè obliquè productâ; labio columellari tortuo, validè uniplicato.*

THE SAINT HELENA SUCCINEA. Shell oblique, subglobose, pinky purple above, olive brown beneath, smooth, rather opake; spire very short, whorls minute; last whorl ventricose; aperture large, anteriorly obliquely produced; columellar lip tortuous, strongly single plaited.

LESSON. Voyage de la Coquille, pl. 15, f. 1.

Hab. St. Helena.

Species 42. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA CROCATA. *Suc. testâ subglobosâ, liratâ, subopacâ, subroseâ, epidermide aurantio vel adustosuccineo indutâ; anfractibus ventricosis, inflatis, penultimo elevato, oblongo, apicali minimâ; aperturâ magnâ, roseâ vel succineo-diaphanâ, anticè ex-*

pansâ, subquadratâ, labio externo posticè ad suturam deflexo, labio interno reflexo, arcuato.

THE SAFFRON SUCCINEA. Shell globose, ridged, subopake pink, covered with an orange or burnt amber epidermis; whorls ventricose, inflated, the last elevated, oblong, apex whorl extremely small; aperture large, rosy or transparent amber, anteriorly expanded, squareish, outer lip posteriorly bent downwards at the suture, inner lip reflected, arched.

GOULD. ——? MS.

Hab. Navigator's Island.

Species 43. (Mus. Brit.)

SUCCINEA PUDORIŃA. *Suc. testâ ovatâ, tenui, liratâ, roseo-aurantiâ; spirâ brèvissimâ, anfractibus duobus, parvis, rotundatis, anfractu ultimo magno, ovato; aperturâ magnâ, subovatâ, pallidè roseo-aurantiâ, labio interno arcuato, validè reflexo.*

THE BLUSH SUCCINEA. Shell ovate, thin, ridged, orange-rose; spire very short, whorls two, small, rounded, last whorl large, oval; aperture large, subovate, pale orange-pink, inner lip arched, strongly reflected.

GOULD —— ? MS. in Brit. Mus.

Hab. Sandwich Islands.

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47 a

48 a

48 b

47 b

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Sowerby, del et lith

Vincent Brooks Day & Son, Imp

SUCCINEA.

PLATE VII.

Species 44. (Mus. Brit.)

SUCCINEA CINGULATA. *Suc. testâ subpyramidatâ, tenui, lævigatâ, pallidè succineâ, ad latera fulvâ, vix translucidâ; spirâ pyramidatâ, anfractibus duobus, anfractu apicali fusco; aperturâ pyramidatâ breviùsculâ, labio columellari tenui, leviter uniplicato.*

THE BELTED SUCCINEA. Shell subpyramidal, thin, smooth, pale amber, brownish at the sides, scarcely translucid; spire pyramidal, whorls two, apical whorl brown; aperture pyramidal, rather short, columellar lip thin, slightly single-plaited.

FORBES ——?

Hab. Mazatlan.

More straight and pyramidal than most of the species.

Species 45. (Mus. Brit.)

SUCCINEA DOMINICENSIS. *Suc. testâ ovato-subtrigonâ, ventricosâ, opacâ, albido-fulvâ, ad apicem aurantiâ; spirâ pyramidatâ, aperturâ longitudine mediocri, intùs flavidâ; labio columellari reflexo, rectiùsculo.*

THE DOMINICA SUCCINEA. Shell ovate-subtrigonal, ventricose, opaque, whitish fawn, orange at the apex; spire pyramidal, aperture of medium length, yellowish within; columellar lip reflected, rather straight.

PFEIFFER. Proc. Zool. Soc.

Hab. Haiti.

Species 46. (Mus. Brit.)

SUCCINEA BARBADENSIS. *Suc. testâ subpyramidatâ, vividè succineâ, translucidâ, lævigatâ, nitenti, subobliquâ; spirâ conicâ, anfractibus duobus; aperturâ latiùsculâ, labio columellari tenui, recti, subreflexo.*

THE BARBADOES SUCCINEA. Shell subpyramidal, bright amber, transparent, smooth, shining, suboblique; spire conical, whorls two; aperture rather broad, columellar lip thin, straight, a little reflected.

GUILDING. Zoological Journal, vol. iii. pl. 27, f. 4-6.

Hab. St. Vincent. St. Thomas.

This shell resembles the smaller and brighter specimens of *Succinea putris*; but is less oblique and more straight-sided.

Species 47. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA HAYDENI. *Suc. testâ ovato-suboblongâ, posticè attenuatâ, subroseâ, fusco tinctâ, tenui, lineis castaneis notatâ, tenuiter liratâ; spirâ elevatâ, anfractibus attenuatis, ultimo obliquo; aperturâ magnâ, anticè obliquè expansâ.*

HAYDEN'S SUCCINEA. Shell ovate, rather oblong, posteriorly attenuated, rather pinky, tinted with brown, thin, marked with chestnut lines, finely ridged; spire elevated, whorls attenuated, the last oblique; aperture large, anteriorly obliquely expanded.

BINNEY. Land Shells.

Hab. Nebraska.

Species 48. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA PLECTOSTOMA. *Suc. testâ subglobosâ, acuminatâ, ventricosâ, obliquâ, subopacâ, purpureofuscâ et roseâ, obliquè leviter liratâ; spirâ brevi, anfractibus prominentibus, ultimo et penultimo magnis, apicali aurantio; aperturâ magnâ, obliquâ, intùs flavidâ, aurantio fasciatâ, labio columellari reflexo, obliquo.*

THE WRY-MOUTHED SUCCINEA. Shell subglobose, acuminated, ventricose, oblique, rather opake, purple-brown and pink, obliquely slightly ridged; spire short, whorls prominent, the last and last but one large, the apical one orange; aperture large, oblique, yellowish within, banded with orange, columellar lip reflected, oblique.

MS. Cuming's collection.

Hab. ——?

This beautiful shell resembles *Succinea picta* in some degree, but is of a different form.

Species 49. (Mus. Brit.)

SUCCINEA NORTONI. *Suc. testâ ovatâ, rectiùsculâ, ventricosâ, fusco-rubescenti, tenuiter liratâ; spirâ productâ, anfractibus duobus, rotundatis; aperturâ longitudine mediocri, subrotundâ, labio columellari leviter uniplicato.*

NORTON'S SUCCINEA. Shell ovate, rather straight, ventricose, reddish-brown, finely ridged; spire produced, whorls two, rounded; aperture of medium length, rather rounded, columellar lip slightly single-plaited.

COX. Proc. Zool. Soc., 1871.

Hab. New South Wales.

Species 50. (Mus. Brit.)

SUCCINEA SAGRA. *Suc. testâ ovatâ, rectiùsculâ, supernè fusco-rubescenti, infrà albido-flavidâ, subrugatâ; spirâ productâ, ventricosâ, anfractibus paucis semiovatis; aperturâ oblongâ, labio columellari medio subangulate, rectiùsculo, leviter uniplicato.*

THE SHAGREEN SUCCINEA. Shell ovate, rather straight, reddish-brown above, whitish-yellow below, a little rough; spire produced, ventricose, whorls few, semiovate; aperture oblong, columellar lip rather angular in the middle, rather straight, slightly single-plaited.

D'ORBIGNY. Mollusca of Cuba, p. 58, pl. 8, f. 1-3.

Hab. Island of Cuba.

Species 51. (Mus. Brit.)

SUCCINEA PALLIDA. *Suc. testâ subovatâ, corneâ, pallidâ, subventricosâ; spirâ elevatâ, anfractibus rufo-fuscis, penultimo elongato, apicali acuminato; aperturâ longitudine spiram æquanti, labio columellari rectiùsculo, labio externo arcuato.*

THE PALE SUCCINEA. Shell subovate, horny, pale, subventricose; spire elevated, whorls reddish-brown, the last elongated, apex acuminated; aperture equalling the spire in length, columellar lip rather straight, outer lip arched.

PFEIFFER. Proc. Zool. Soc., 1846, p. 109.

Hab. Tahiti.

52

53 a

53 b

54

55 a

55 b

56

12 a

57

58

Sowerby, del et lith.

Vincent Brooks Day & Son, Imp.

SUCCINEA.

PLATE VIII.

Fig. 12, *a*. Mus. Cum. in Brit.

SUCCINEA PICTA. A very globose variety of this species, from St. Helena.

Species 52. (Mus. Brit.)

SUCCINEA DELALANDEI. *Suc. testâ pyramidatâ, pallidè succineâ, pellucidâ, lævigatâ; spirâ aurantiâ, elevatâ, acuminatâ, anfractibus elongatis, lateribus rectiùsculis; aperturâ posticè attenuatâ, anticè subexpansâ, propè marginem aurantiâ.*

DELALANDE'S SUCCINEA. Shell pyramidal, pale amber, pellucid, smooth; spire orange, elevated, acuminated, whorls elongated, sides rather straight, aperture posteriorly attenuated, anteriorly a little expanded, orange near the margin.

PFEIFFER. MS.

Hab. Cape of Good Hope.

A transparent shell of a peculiarly pyramidal form.

Species 53. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA SCALARINA. *Suc. testâ elongatâ, pyramidatâ, opacâ, albido-fulvâ et roseâ; spirâ elevatâ, anfractibus scalariformibus, fusco-rubescentibus; ultimo breviùsculo ovato; aperturâ breviùsculâ, anticè rotundatâ; labio columellari leviter arcuato.*

THE LADDER SUCCINEA. Shell elongated, pyramidal, opake, whitish-brown and pinky; spire elevated, whorls scalariform, reddish-brown; the last rather short, ovate; aperture rather short, rounded anteriorly, columellar lip slightly arched.

PFEIFFER. MS. in Brit. Mus.

Hab. St. George's Sound.

Species 54. (Mus. Brit.)

SUCCINEA RUGOSA. *Suc. testâ ovatâ, oblongâ, posticè subattenuatâ, pallidissimâ, flavido-fusco tinctâ, concentricè striatâ; spirâ brevi, anfractibus duobus rotundatis, prominentibus, ultimo magno, ovato; aperturâ anticè expansâ.*

THE RUGOSE SUCCINEA. Shell ovate, oblong, posteriorly rather attenuated, very pale, tinted with yellowish-brown; spire short, whorls two, rounded, prominent, the last large, ovate; aperture expanded in front.

PFEIFFER. Symbol. Heliceorum, p. 131.

Hab. —— ?

Species 55. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA PINGUIS. *Suc. testâ oblongâ, ventricosâ, perobliquâ, subroseâ, epidermide lævigato, aurantio-fulvo indutâ, intùs roseâ, castaneo marginatâ; spirâ brevi, anfractibus obliquis, paucis, rotundatis, ultimo propè suturam tumido; aperturâ magnâ, anticè obliquè expansâ, labio externo supernè deflexo, labio interno validè reflexo, uniplicato.*

THE FAT SUCCINEA. Shell oblong, ventricose, very oblique, pink, covered with a smooth, orange-brown epidermis, pink within, bordered with chestnut. Spire short, whorls oblique, few, rounded, the last tumid near the suture; aperture large, obliquely expanded in front, outer lip bent downwards above, inner lip strongly reflected, with one plait.

PFEIFFER —— ? MS. Brit. Mus.

Hab. "Island Massa-fewru."

Species 56. (Mus. Brit.)

SUCCINEA OBLIQUA. *Suc. testâ ovato-pyramidatâ, pallidè corneâ, fusco tinctâ et fasciatâ, concentricè*

substriatâ, semitransluciclâ; spirâ elevatâ, pyramidatâ anfractibus declivibus, penultimo oblongo; aperturâ posticè angustatâ, anticè expansâ, labio columellari leviter plicato, arcuato.

THE OBLIQUE SUCCINEA. Shell ovate-pyramidal, pale horny, tinted and banded with brown, concentrically substriated, semitransparent; spire elevated, pyramidal, whorls sloped, the penultimate oblong; aperture narrow posteriorly, expanded anteriorly; columellar lip slightly plaited, arched.

SAY. Jay's Catalogue of Shells, p. 58.

Hab. New Jersey, United States.

Species 57. (Mus. Cum. in Brit.)

SUCCINEA PAPILLATA. *Suc. ovato-oblongâ, attenuatâ, lævigatâ, liratâ, rubro-fuscâ vel stramineâ; spirâ elevatâ, apice papillæformi, anfractu penultimo attenuato; aperturâ obliquâ, magnâ, labio interno reflexo, uniplicato, arcuato, labio externo deflexo.*

THE PAPILLATED SUCCINEA. Shell ovate-oblong, attenuated, smooth, lirated, red-brown or straw-coloured; spire elevated, apex teat-shaped, penultimate whorl attenuated; aperture oblique, large, inner lip reflected with a plait, arched, outer lip deflected.

PFEIFFER. MS. Cuming's collection.

Hab. Tahiti.

Species 58. (Mus. Brit.)

SUCCINEA INFLATA. *Suc. testâ ovato-acuminatâ, ventricosâ, striatâ, pallidè fuscâ, subopacâ; spirâ elevatâ, acuminatâ; aperturâ ovatâ, intùs flavidâ; labio columellari reflexo, crassiùsculo, rectiùsculo.*

THE INFLATED SUCCINEA. Shell ovate-acuminated, ventricose, striated, pale brown, subopake; spire elevated, acuminated; aperture ovate, yellow within; columellar lip reflected, rather thick, rather straight.

LEA. Proceedings of the American Philosophical Society, vol. ii. p. 32.

Hab. Georgia.

59

60 a

60 b

61

62 a

62 b

63

64 a

64 b

65

SUCCINEA.

PLATE IX.

Species 59. (Mus. Brit.)

SUCCINEA AUSTRALIS. *Suc. testâ subpyramidatâ, stramineâ, tenui, haud translucidâ, subrugosâ; spirâ pyramidatâ, anfractibus duobus, subrotundis, apice rubro; aperturâ anticè latâ, posticè acuminatâ.*

THE AUSTRALIAN SUCCINEA. Shell subpyramidal, straw-coloured, thin, not translucid, subrugose; spire pyramidal, whorls two, rather rounded, apex red; aperture broad in front, acuminated posteriorly.

QUOY. Voyage de l'Astrolabe, vol. ii. p. 150, pl. 13, f. 18—23.

Hab. Van Diemen's Land.

Species 60. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA EUCALYPTI. *Suc. testâ parvâ, solidâ, ovatâ, lævigatâ, corneo-fuscâ; spirâ brevi, anfractibus duobus, parvis, rotundis; aperturâ magnâ, ovatâ, intùs castaneâ, ad marginem albidâ.*

THE EUCALYPTIC SUCCINEA. Shell small, solid, ovate, smooth, horny brown; spire short, whorls two, small, rounded; aperture large, ovate, chestnut within, whitish at the margin.

COX. —— ? MS. Mus. Brit.

Hab. New South Wales.

Found on what appears to be the bark of a marine marsh-growing tree.

Species 61. (Mus. Brit.)

SUCCINEA NEWCOMBII. *Suc. testâ patulâ, expansâ, subrotundâ, solidiùsculâ, roseâ, epidermide olivaceo indutâ, anfractu ultimo infrà angulato; spirâ brevissimâ, vix exsertâ; aperturâ magnâ, obliquè expansâ, intùs roseo-subiridescenti; plicâ columellari subtortuâ, arcuatâ.*

NEWCOMBE'S SUCCINEA. Shell patulous, expanded, rather rounded, rather solid, rose-coloured, covered with an olive epidermis, last whorl angular beneath; spire very short, hardly exserted; aperture large, obliquely expanded, rosy-iridescent within, columellar plate rather tortuous, arched.

PFEIFFER. Proc. Zool. Soc., 1864, p. 297.

Hab. Sandwich Islands.

Species 62. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA HYALINA. *Suc. testâ ovato-acuminatâ, tenuissimâ, pallidâ, translucidâ; spirâ brevi, anfractibus duobus; aperturâ magnâ, obliquâ, anticè subexpansâ, labio columellari tenuissimo, leviter arcuato.*

THE GLASSY SUCCINEA. Shell ovately-acuminated, very thin, pale, translucid; spire short, whorls two; aperture large, oblique, anteriorly somewhat expanded, columellar lip very thin, slightly arched.

SHUTTLEWORTH. —— ? MS. in Mus. Brit.

Hab. Porto Rico.

This extremely thin and transparent shell has the last whorl very large in proportion to the spire, which consists of two very small whorls.

Species 63. (Mus. Brit.)

SUCCINEA GUNDLACHII. *Suc. testâ ovato-acuminatâ, pallidè stramineâ, strigis irregularibus subcæruleis ornatâ, semiopacâ; spirâ elevatâ, anfractibus rotundis, prominentibus; aperturâ brevi, ovatâ, luteâ; plicâ columellari tenui, rectiusculâ.*

GUNDLACH'S SUCCINEA. Shell ovately-acuminated, pale straw, ornamented with irregular subcæruleau stripes, semi-opaque; spire elevated, whorls rounded, prominent; aperture short, ovate, yellow; columellar plait thin, rather straight.

PFEIFFER. —— ? MS. in Cum. coll.
Hab. Cuba.

The roundness of the whorls gives this shell something of a scalariform appearance.

Species 64. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA UNDULATA. *Suc. testâ ovato-subacuminatâ, rugis subregularibus undulatâ, tenui, pallidè succineâ, anticè rubescenti; spirâ subpyramidatâ, anfractibus paucis; aperturâ magnâ, ovatâ, plicâ columellari validâ; labio externo anticè subexpanso.*

THE UNDULATED SUCCINEA. Shell ovate-subacuminated, undulated with rather regular wrinkles, thin, pale amber, reddish in front; spire subpyramidal, whorls few; aperture large, ovate, columellar fold strong; outer lip anteriorly somewhat expanded.

SAY. Contributions to Conchology (?).
Hab. Mexico.

Species 65. (Mus. Brit.)

SUCCINEA LUTEOLA. *Suc. testâ pyramidatâ, pallidè stramineâ, strigis longitudinalibus subcæruleis ornatâ; spirâ productâ, subscalatâ; aperturâ subtrigonâ, breviusculâ, vividè luteâ.*

THE YELLOW SUCCINEA. Shell pyramidal, pale straw-coloured, ornamented with longitudinal bluish stripes; spire produced, somewhat ladder like; aperture subtrigonal, rather short, bright yellow.

GOULD. MS. Brit. Mus.
Hab. ——?

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Sowerby del et lith

Vincent Brooks Day & Son, Imp.

SUCCINEA.

PLATE X.

Species 66. (Mus. Brit.)

SUCCINEA CANELLA. *Suc. testâ breviùsculâ, ventricosâ, semiglobosâ, tenui, hyalinâ, translucidâ, albâ; spirâ brevi, anfractibus duobus, prominentibus, rotundis, ultimo magno; aperturâ latâ, subovatâ.*

THE FROSTED SUCCINEA. Shell rather short, ventricose, semiglobose, thin, hyaline, translucid, white; spire short, whorls two, prominent, rounded, the last large; aperture broad, subovate.

GOULD ——? MS. Mus. Cum. in Brit.

Hab. ——?

This glassy little shell is more bubble-shaped than most of the species.

Species 67. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA LUTESCENS. *Suc. testâ gracili, ovato-acuminatâ, lævigatâ, translucidâ, fasciis longitudinalibus opacis ornatâ, pallidè flavidâ; spirâ subattenuatâ, anfractibus tribus, subventricosis; aperturâ longitudine mediocri, anticè subexpansâ, plicâ columellari validiùsculâ.*

THE YELLOWISH SUCCINEA. Shell slender, ovate-acuminated, smooth, translucid, ornamented with opake longitudinal bands, pale yellowish; spire rather attenuated, whorls three, rather ventricose; aperture of medium length, rather expanded in front, columellar plait rather strong.

GOULD ——? MS. Mus. Cum. in Brit.

Hab. Texas.

This shell is opake and translucid in alternating bands.

Species 68. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA GUAMENSIS. *Suc. testâ pallidè aurantiâ, leviter rugatâ, ovatâ, subacuminatâ; spirâ breviùsculâ, anfractibus duobus, parvis, rubris, subrotundis; aperturâ ovatâ, intus subiridescenti, plicâ columellari validâ, leviter arcuatâ. Variat testâ rubro-fuscâ.*

THE GUAM SUCCINEA. Shell pale orange, lightly wrinkled, ovate, subacuminated; spire rather short, whorls two, small, red, rather rounded; aperture ovate, rather iridescent within, columellar fold strong, slightly arched. The shell varies to red-brown.

PFEIFFER. Proc. Zool. Soc., 1851, p. 110.

Hab. Guam.

Species 69. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA FRAGILIS. *Suc. testâ tenui, subroseâ, translucidâ, epidermide corneo-subviridi indutâ, irregulariter longitudinaliter rugosâ; spirâ brevissimâ, anfractibus apicalibus parvis, ultimo anfractu magno; aperturâ latâ, obliquè expansâ.*

THE FRAGILE SUCCINEA. Shell thin, rather pinky, translucid, covered with a greenish horny epidermis, irregularly longitudinally rugose; spire very short, apical whorls small; last whorl large; aperture broad, obliquely expanded.

KING. Zool. Journ., vol. v. f. 343.

Hab. Sandwich Islands.

Species 70. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA SPURCA. *Suc. testâ parvâ, tenuissimâ, hyalinâ, ovatâ, oblongâ, albidâ; epidermide tenui, sordido, frequenter lutum in carinas spirales tres colligenti indutâ; spirâ brevi, anfractibus paucis, parvis, prominentibus; aperturâ subovatâ, longitudine mediocri.*

THE SOILED SUCCINEA. Shell small, very thin, hyaline, ovate, oblong, whitish; covered with a thin, dirty-coloured epidermis which frequently collects the mud into three spiral keels; spire short, whorls few, small, prominent; aperture subovate, of medium length.

GOULD. Boston Proc. Nat. Hist. Soc., vol. iii. p. 193.

Hab. Siberia.

When the shell is cleared of its epidermis, and the mud that sticks to it, no trace can be seen of lines or indentations which would account for the three carinæ or ridges into which the mud has been formed.

Species 71. (Mus. Brit.)

SUCCINEA CADUCA. *Suc. testâ ovatâ, opacâ, fusco-corneâ, lævigatâ; spirâ brevi, acuminatâ, anfractibus apicalibus duobus minutis; aperturâ ovatâ, intùs iridescenti; plicâ columellari tenui, rectiùsculâ.*

THE BRITTLE SUCCINEA. Shell ovate, opake, horny-brown, with the two apical whorls minute; aperture ovate, iridescent within; columellar plait thin, rather straight.

MIGHÆLS ——?

Hab. Sandwich Islands.

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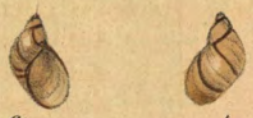


a *b*

80

SUCCINEA.

PLATE XI.

Species 72. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA MARGARITA. *Suc. testâ parvâ, pallidè fulvo; rubescenti, subpellucidâ, lævigatâ, subpyramidatâ; spirâ pyramidatâ, acuminatâ; aperturâ subtrigonâ; labio columellari rectiùsculâ.*

THE PEARL SUCCINEA. Shell small, pale reddish fawn-colour, reddish, subpellucid, smooth, subpyramidal; spire pyramidal, acuminated; aperture subtrigonal; columellar lip rather straight.

PFEIFFER. Proc. Zool. Soc., 1853, p. 60.

Hab. ——?

Species. 73. (Mus. Cuming in Brit.)

SUCCINEA REPANDA. *Suc. testâ subpyramidatâ, semipellucidâ, fumoso-corneâ, obliquâ, tenui; spirâ acuminatâ, pyramidatâ; ultimo anfractu mediocriter ventricoso; aperturâ magnâ, obliquâ, posticè acuminatâ, anticè expansâ.*

THE SPREAD SUCCINEA. Shell subpyramidal, semipellucid, smoky-horn coloured, oblique, thin; spire acuminated, pyramidal; last whorl moderately ventricose; aperture large, oblique, posteriorly acuminated, anteriorly expanded.

PFEIFFER. Proc. Zool. Soc., 1854, p. 123.

Hab. Brazil.

Species 74. (Mus. Brit.)

SUCCINEA CHINENSIS. *Suc. testâ pellucidâ, obliquè ovatâ, tenuiter rugatâ, pallidè succineâ; apice minuto; anfractu ultimo obliquè subventricoso; aperturâ magnâ obliquè ovatâ.*

THE CHINESE SUCCINEA. Shell pellucid, obliquely ovate, slightly wrinkled, pale amber; apex minute; last whorl obliquely subventricose; aperture large, obliquely ovate.

PFEIFFER. Proc. Zool. Soc., 1857, p. 110.

Hab. Hong Kong.

Species 75. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA PUDORINA. *Suc. testâ obliquè ovatâ, acuminatâ, lævigatâ, succineo-rubescenti; spirâ acuminatâ, anfractibus paucis, distinctis, rotundis; ultimo anfractu ventricoso, infrà expanso; aperturâ magnâ, anticè expansâ; labio columellari distinctè uniplicato, arcuato.*

THE BLUSHING SUCCINEA. Shell obliquely ovate, acuminated, smooth, reddish amber; spire acuminated, whorls few, distinct, rounded; last whorl ventricose, expanded below; aperture large, anteriorly expanded, columellar lip distinctly uniplicate, curved.

GOULD ——? MS.

Hab. Sandwich Islands.

Species 76. (Mus. Brit.)

SUCCINEA TAHIETENSIS. *Suc. testâ rubescenti, epidermide fulvo indutâ, gracilè subovatâ, obliquâ, leviter rugatâ; spirâ elevatâ, acuminatâ; aperturâ obliquè subovatâ, pallidè roseâ; labio columellari plicâ elongatâ arcuatâ armato.*

THE TAHITI SUCCINEA. Shell reddish, covered with a yellowish epidermis, narrowly subovate, oblique, slightly wrinkled; spire elevated, acuminated; aperture obliquely subovate, pale rose; columellar lip strengthened by an elongated arched plait.

PFEIFFER. Proc. Zool. Soc., 1846, p. 109.

Hab. Tahiti and Sandwich Islands.

Species 77. (Mus. Cuming in Brit.)

SUCCINEA GOULDIANA. *Suc. testâ succineâ, semipellucidâ, pyramidatâ, gracili, posticè attenuatâ; spirâ elevatâ, acuminatâ; aperturâ pyramidatâ, anticè obliquè expansâ.*

GOULD'S SUCCINEA. Shell amber, semipellucid, pyramidal, slender, posteriorly attenuated; spire elevated, acuminated; aperture pyramidal, anteriorly obliquely expanded.

PFEIFFER. ——?

Hab. Tahiti.

This shell is of a rich golden amber colour, and resembles some varieties of our *Succinea putris*, but is much more slender and pyramidal.

Species 78. (Mus. Cuming in Brit.)

SUCCINEA ROTUNDATA. *Suc. testâ subglobosâ, solidiusculâ, roseâ, fusco longitudinaliter strigatâ, lævigatâ; spirâ productâ, anfractibus tribus, rotundis, distinctis; anfractu ultimo ventricoso; aperturâ subrotundâ, plicâ columellari parvâ.*

THE ROUNDED SUCCINEA. Shell subglobose, rather solid, pink, longitudinally striped with brown, smooth; spire produced, whorls three, round, distinct; last whorl ventricose; aperture a little rounded; columellar plait small.

SOWERBY.

Hab. Port Clarence.

This rather globose shell is named *Succinea strigata* in the Cumingian collection, but differs from that species in form.

Species 79. (Mus. Brit.)

SUCCINEA RUBICUNDA. *Suc. testâ ovatâ, obliquâ, tenui, lævigatâ, fusco-rubescenti; spirâ exsertâ; anfractu apicali minuto; anfractu ultimo obliquè ventricoso; aperturo magnâ, anticè expansâ; labio columellari tenui, vix plicato.*

THE RUBICUND SUCCINEA. Shell ovate, oblique, thin, smooth, reddish brown; spire produced; apical whorl minute; last whorl obliquely ventricose; aperture large, anteriorly expanded; columellar lip thin, with a scarcely developed plait.

PFEIFFER. Proc. Zool. Soc., 1849, p. 134.

Hab. ——?

A pretty little oval species, coloured claret brown.

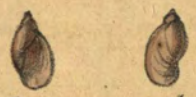
Species 80. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA GREENLANDICA. *Suc. testâ parvâ, obliquè pyramidatâ, stramineâ, lineis distantibus subviridis strigatâ; spirâ elevatâ, acuminatâ, anfractibus duobus, subovatis, distinctis; aperturâ anticè obliquè productâ, labio columellari simplici, leviter arcuato.*

THE GREENLAND SUCCINEA. Shell small, obliquely pyramidal, straw-coloured, striped with distant greenish lines; spire elevated, acuminated, whorls two, rather oval, distinct; aperture anteriorly obliquely produced, columellar lip simple, slightly curved.

BEEK. ——? MS.

Hab. Greenland.



a *b*

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Sowerby del et lith.

Vincent Brooks Day & Son, Imp.

SUCCINEA.

PLATE XII.

Species 81. (Mus. Brit.)

SUCCINEA TOMENTOSA. *Suc. testâ parvâ, fumoso-corneâ, semipellucidâ, elongato-ovatâ, gracili; spirâ acuminatâ; anfractu ultimo magno, ovato, aperturâ obliquâ, declivi, anticè productâ, rotundâ.*

THE REED SUCCINEA. Shell small, smoky-horn coloured, semipellucid, elongato-ovate, slender; spire acuminated; last whorl large, ovate, aperture oblique, sloped downwards, anteriorly produced, rounded.

PFEIFFER. Proc. Zool. Soc., 1854, p. 297.

Hab. New Zealand, on reeds.

Species 82. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA INFUNDIBULIFORMIS. *Suc. testâ pyramidatâ, acuminatâ, retrorso arcuatâ, succineâ, lævigatâ, posticè attenuatâ; spirâ exsertâ, anfractibus apicalibus duobus, parvis; anfractu ultimo anticè subventricoso; aperturâ pyriformi, labio columellari uniplicato, ad medium projecto.*

THE FUNNEL-SHAPED SUCCINEA. Shell pyramidal, acuminated, arched backwards, amber-coloured, smooth, anteriorly attenuated; spire exserted, apex whorls two, small; last whorl rather ventricose anteriorly; aperture pyriform, columellar lip with one plait, projected at the middle.

GOULD. —— ? MS.

Hab. Tahiti.

Very curiously depressed in the middle of the dorsal side, and correspondingly pressed forward in the front.

Species 83. (Mus. Brit.)

SUCCINEA ARBOREA. *Suc. testâ ovato-subrotundâ, pallidè corneâ, translucidâ; spirâ subacuminatâ, anfractibus ventricosis; ultimo anfractu ovato-ventricoso, leviter rugato; aperturâ ovatâ; plicâ columellari indistinctâ, leviter arcuatâ.*

THE TREE SUCCINEA. Shell ovately-roundish, pale horn-coloured, translucid; spire subacuminated, whorls ventricose; last whorl ovately ventricose, slightly wrinkled; aperture ovate; columellar fold indistinct, slightly arched.

ADAMS AND ANGAS. Proc. Zool. Soc.

Hab. South Australia, on trees.

Species 84. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA PATENTISSIMA. *Suc. testâ oblongâ, compressâ, tenui, corneâ, subregulariter rugatâ; spirâ minutâ, rubrâ; anfractu ultimo magno, expanso, aperturâ oblongâ, latè expansâ, pallidè roseâ.*

THE WIDE-OPEN SUCCINEA. Shell oblong, compressed, thin, horny, rather regularly wrinkled; spire minute, red; last whorl large, expanded, aperture oblong, widely expanded, pale rose.

MENKE. Synopsis.

Hab. Cape Natal.

Species 85. (Mus. Brit.)

SUCCINEA VESCICALIS. *Suc. testâ magnâ, subpyramidatâ, pallidè fulvâ, tenuiter et irregulariter rugatâ; spirâ pyramidatâ, productâ, acuminatâ; ultimo anfractu magno, ventricoso; aperturâ pyramidatâ, anticè magnâ, rotundâ.*

THE BUBBLE SUCCINEA. Shell large, subpyramidal, pale fawn, finely and irregularly wrinkled; spire pyramidal, produced, acuminated; last whorl large, ventricose; aperture pyramidal, anteriorly large, rounded.

GOULD. —— ? MS.

Hab. Sandwich Islands.

Species 86. (Mus. Brit.)

SUCCINEA HUMEROSA. *Suc. testâ oblongo-subcompressâ, fulvo-rubescenti; spirâ parvâ, subroseâ; anfractu ultimo magno, oblongo, propè suturam paulo humeroso aperturâ magnâ, anticè expansâ.*

THE SHOULDERED SUCCINEA. Shell oblong-subcompressed, reddish-fawn; spire small, a little rosy; last whorl large, oblong, a little shouldered near the suture; aperture large, expanded.

GOULD. —— ? MS.

Hab. —— ?

Species 87. (Fig. *a*, *b*, Mus. Brit.)

SUCCINEA PLANTI. *Suc. testâ parvâ, subovatâ, subpellucidâ, fumoso-corneâ; spirâ minutâ, unispirali; anfractu ultimo magno, obliquo; aperturâ obliquâ, subovatâ; labio columellari tenui, vix arcuato, vix plicato.*

PLANT'S SUCCINEA. Shell small, subovate, subpellucid, smoky-horn coloured; spire minute, unispiral; last whorl large, oblique; aperture oblique, subovate; columellar lip thin, scarcely arched, scarcely plaited.

PFEIFFER. Proc. Zool. Soc., 1856, p. 326.

Hab. Natal.

Species 88. (Mus. Cuming in Brit.)

SUCCINEA SEMIGLOBOSA. *Suc. testâ parvâ, translucidâ, pallidè subviridi, subglobosâ, lævigatâ, apertâ, spirâ minutissimâ; aperturâ magnâ, rotundâ.*

THE SEMIGLOBOSE SUCCINEA. Shell small, translucid, pale greenish, subglobose, smooth, open, spire very small; aperture large, rounded.

PFEIFFER. Proc. Zool. Soc., 1846, p. 109.

Hab. Chili.

Species 89. (Mus. Brit.)

SUCCINEA CUVIERI. *Suc. testâ parvâ, ovatâ, tenuiter rugatâ, succineâ, translucidâ; spirâ productâ; anfractu ultimo ovato; aperturâ subdeclivi, ovatâ, labio columellari tenui, arcuato, indistincti uniplicato.*

CUVIER'S SUCCINEA. Shell small, ovate, finely wrinkled, amber, translucid; spire produced; last whorl ovate; aperture somewhat sloped, ovate; columellar lip thin, arched, with an indistinct plate.

GUILDING. Zool. Journ., vol. ii. pl. 17.

Hab. Isl. St. Vincent.

SUCCINEA.

	Plate.	Species.
acuminata, *Blanford*	II.	13
amphibia, Nilson	II.	10
approximata, *Shuttleworth*	IV.	27
arborea, *Adams & Angas*	XII.	83
Australis, *Quoy*	IX.	59
avara, Pfeiffer	III.	22
Baconi, *Pfeiffer*	I.	6
Barbadensis, *Guilding*	VII.	46
Bensoni, *Pfeiffer*	I.	7
Brumeare, Stentz	II.	10
bullina, Zeigler	II.	10
caduca, *Mighœls*	X.	71
calycina, *Menke*	IV.	26
calycina, Menke	II.	10
campestris, *Say*	II.	8
canella, *Gould*	X.	66
Chinensis, *Pfeiffer*	XI.	74
cingulata, *Forbes*	VII.	44
collina, *Blanford*	I.	1
crassiuscula, *Benson*	I.	4
crocata, *Gould*	VI.	42
Cumingii, *Pfeiffer*	V.	36
Cuvieri, *Guilding*	XII.	89
daucina, *Pfeiffer*	III.	19
Delalandii, *Pfeiffer*	VIII.	52
Dominicensis, *Pfeiffer*	VII.	45
Donetti, *Pfeiffer*	IV.	30
elegans, *Risso*	I.	3
Eucalypti, *Cox*	IX.	60
equinoctialis, *D'Orbigny*	V.	32
Fernandi, *MS.*	V.	37
fragilis, *King*	X.	69
Girnarica, *Theobald*	I.	5
Gouldiana, *Pfeiffer*	XI.	77
gracilis, *Alder*	III.	16
Grœnlandica, *Beck*	XI.	80
Guamensis, *Pfeiffer*	X.	68
Gundlachii, *Pfeiffer*	IX.	63
Haydeni, *Binney*	VII.	47
humerosa, *Gould*	XII.	86
hyalina, *Shuttleworth*	IX.	62
Indica, *Pfeiffer*	I.	2
inflata, *Lea*	VIII.	58
infundibuliformis, *Gould*	XII.	82
intermedia, Bean	II.	10
lauta, *Gould*	IV.	28
latior, *C. B. Adams*	V.	33
luteola, *Gould*	IX.	65
lutescens, *Gould*	X.	67
Margarita, *Pfeiffer*	VI.	39
Repeated by error	XI.	72
Magellanica, *Gould*	VI.	38
mammillata, *Benson*	V.	34
Newcombi, *Pfeiffer*	IX.	61
Nortoni, *Cox*	VII.	49
obliqua, *Say*	VIII.	56
oblonga, *Draparnaud*	III.	23
ovalis, *Say*	III.	18
pallida, *Pfeiffer*	VII.	51
papillata, *Pfeiffer*	VIII.	57
patentissima, *Menke*	XII.	84
patula, *Brugùiere*	III.	21
Pfeifferi, Rosmässler	II.	10
picta, *A. Adams*	II.	12
pinguis, *Pfeiffer*	VIII.	55
Planti, *Pfeiffer*	XII.	87
plectostoma, *MS.*	VII.	48
plicata, *Blanford*	II.	11
pudorina, *Gould*	XI.	75
pudorina,	VI.	43
punctata, *Pfeiffer*	IV.	29
pusilla, *Pfeiffer*	V.	35
putris, *Linnœus*	II.	10
repanda, *Pfeiffer*	XI.	73
rotundata, *Sowerby*	XI.	78
rubescens, *Deshayes*	IV.	25

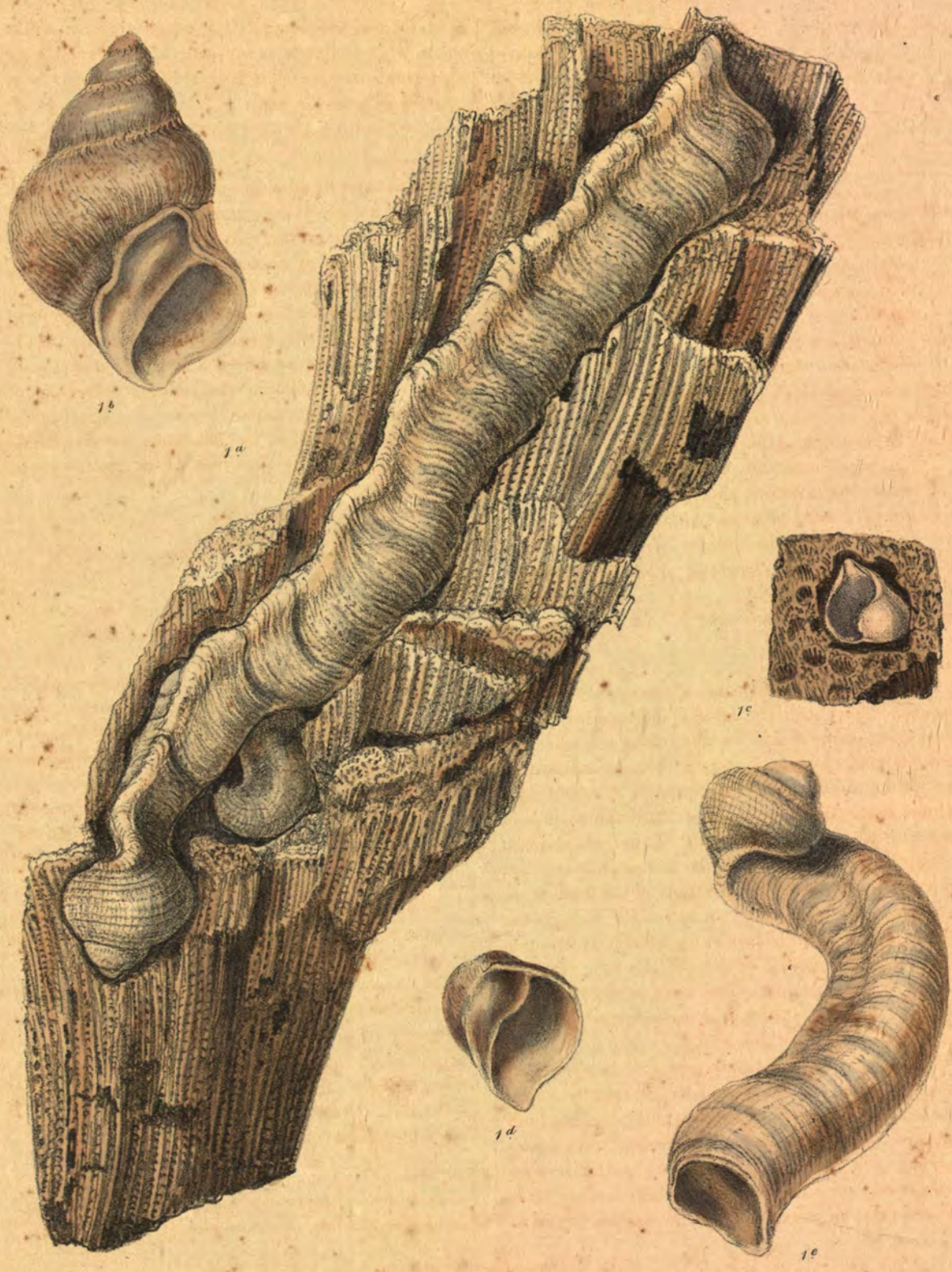
	Plate.	Species.
rubicunda, *Pfeiffer*	XI.	79
rugosa, *Pfeiffer*	VIII.	54
rutilans, *Blanford*	II.	14
Salleana, *Pfeiffer*	VI.	40
Sanctæ Helenæ, *Lesson*	VI.	41
Sagra, *D'Orbigny*	VII.	50
scalarina, *Pfeiffer*	VIII.	53
semiglobosa, *Pfeiffer*	XII.	88
semiserica, *Gould*	II.	9
solidula, *Pfeiffer*	V.	31
spurca, *Gould*	X.	70
strigata, *Pfeiffer*	II.	15
subgranosa, *Pfeiffer*	IV.	24
Tshietensis, *Pfeiffer*	XI.	76
tomentosa, *Pfeiffer*	XII.	81
Totteniana, *Lea*	III.	17
undulata, *Say*	IX.	64
vermeta, *Say*	III.	22
vescicalis, *Gould*	XII.	85
vitræa, *Pfeiffer*	III.	20

MONOGRAPH

OF THE GENUS

MAGILUS.

'These are Thy glorious works, Thou source of good,
How dimly seen, how faintly understood."—*Cowper.*



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Sowerby del. et lith.

Vincent Brooks Day & Son Imp.

MAGILUS.

PLATE I.

Genus MAGILUS, *Montford.*

Molluscum gasteropodum marinum, madreporicolum.
Testa ætate juniori heliciformis, tenuis, paucispiratis, plerumque extus striis undulatis squamiferis rugata, alba; spira obtusa, apertura ovata seu pyriformi, canali antico distincto; ætate seniori in speciebus plurimis margine aperturæ in tubum elongatum, irregularem, incrassatum, extenso.
Operculum corneum elongatum, nucleo laterali.

Mollusc gasteropodous, marine, inhabiting madrepores.
Shell, in a young state, thin, few-whorled, generally roughened externally with wavy, squamose striæ, white; spire obtuse, aperture ovate or pyriform, anterior canal distinct; in an adult state, in several species, the margin of the aperture extended into an elongated, irregular, thickened tube.
Synonyma. CAMPULATUS, *Guettard;* pars LEPTOCONCHUS, *Rüppell.*

The habits of this genus of mollusca are very curious. The young fry, after a short period of free locomotion, seems to find its way into some hole in a growing madrepore, and then to become stationary; but as the substance grows round it, it would soon become enclosed unless the growth of the shell kept pace with that of the madrepore. In order, therefore, to keep its aperture close to the surface, the two lips are extended in the same direction in the form of an irregular tube. The magilus leaves its shell in the original cavity, and filling it up so that it becomes solid, occupies only that portion of the tube which is nearest to the opening. The walls of the tube are thickened, and the portion which represents the canal is consolidated into a thick keel.

The species which have not been found as yet in an advanced state, and which appear generically to resemble the young shells of Magilus antiquus, have been separated by authors under the generic term *Leptoconchus;* and it is asserted that while the *magilus* possesses an operculum, the Leptoconchi do not. It is also said that the young shell of the Magilus begins to form a thickened and entire edge to its aperture, as if preparing for the future erratic course of its shell. It appears to me, however, that it depends upon the accidental conditions of habitat and growth whether and at what period of life the shell of a Magilus shall become tubular; and as for the operculum, it is certain that some, if not all, the species enumerated as Leptoconchus by authors have been found with opercula;—notably, we have figured the genuine operculum of *Leptoconchus*, LAMARCKII, *Deshayes.*

The Isle of Bourbon, the Mauritius, and the Sandwich Islands—perhaps most islands with reefs—afford homes to the Magili.

Species 1. (Fig. *a, b, c, d, e,* Mus. Brit.)

MAGILUS ANTIQUUS. *Mag. testâ, ætate juniori tenui, globosâ, spiraliter striatâ, anticè subserrato-costatâ; longitudinaliter squamoso-striatâ, spirâ plerumque brevissimâ, canali brevi, labio interno lævigato, columellâ arcuatâ; labio externo propè canalem subcontracto; ætate seniori solidâ, rugosâ, tubo latere externo squamoso-rugato, latere interno laminis irregularibus incrassato.*

THE ANTIQUE MAGILUS. Shell, in a young state, thin, globose, spirally striated, anteriorly with subserroid ribs, longitudinally squamosely striated, spire generally very short, canal short, inner lip smooth, columella arched; outer lip slightly contracted towards the canal; in the older state solid, rugose; tube squamosely-rugose on the outer side, thickened with laminæ on the inner side.
LAMARCK. Anim. sans vert., vol. v.
Campulotus, Guettard.
Hab. Isle of Bourbon.

Our figure, *a*, represents an unusually lengthened specimen of Magilus in madrepore. *b* is a specimen

which maintained the spiral form for several wide whorls, probably in consequence of inhabiting a cavity in a coral that had ceased to grow. *c*, a very thin young shell *in situ*; *d*, a more advanced specimen, showing the commencement of the thickened and entire peritreme, which would probably have resulted in a tube. *e*, a second full-grown specimen, showing the aperture in front.

2a

2b

3

2c

4a

4b

5a

5b

Sowerby del et lith

Vincent Brooks Day & Son, Imp.

MAGILUS.

PLATE II.

Species 2. (Fig. *a*, *b*, *c*. Mus. Sowerby.)

MAGILUS CUMINGII. *Mag. testâ (ætate juniori?) elongato-subglobosâ, minutissimè et regulariter lamellosâ, spirâ breviusculâ, conicâ, obtusâ; anfractibus quaternis, ultimo maximo, anticè obtuso; aperturâ magnâ, perobliquâ; columellâ latâ, contortâ, extus latè reflexâ, labio externo tenui, obliquè producto, arcuato posticè.*

CUMING'S MAGILUS. Shell elongately-subglobose, very minutely and regularly laminated; spire rather short, conical, obtuse; whorls four, the last very large, obtuse in front, aperture large, very oblique; columella broad, twisted, externally broadly reflected, outer lip thin, obliquely produced and arched posteriorly.

DESHAYES. Conchyliogie de l'Ile de la Réunion, p. 125, pl. xii. fig. 26-27.

Hab. Isle of Bourbon (Réunion).

Although the spire of this species is somewhat conical, the body-whorl is very globose and the outer lip obliquely overlaps its surface to a great extent.

Species 3. (Mus. Lenepp.)

MAGILUS MICROCEPHALUS. *Mag. testâ nucleo globuloso, minuto, solido, aperturâ deindè subitò crescenti, in tubum irregularem rugosum tortuosum, ad canalem carinatum producto; latere externo rugoso-striato; latere interno laminatim calloso; aperturâ integrâ, pyriformi.*

THE SMALL-HEADED MAGILUS. Shell with a globose, minute, solid nucleus; aperture thence suddenly enlarging, produced into an irregular, rugose, tortuous tube, keeled at the canal; the outer side rugosely striated; inner side laminately callous, aperture entire, pyriform.

SOWERBY.

Hab. ——?

The specimen figured in our plate is the second that has fallen into the hands of its present possessor. It is not named here as a new species without some hesitation, but the minute size of the spiral nucleus and the sudden enlargement of the tubular portion gives the shell so distinct an appearance that the character deserves registering, be it worth what it may.

Species 4. (Fig. *a*, *b*, Mus. Deshayes? Copied.)

MAGILUS CUVIERI. *Mag. testâ subglobulosâ, brevi, in medio inflatâ, tenui, albâ, pellucidâ, ad apicem flavicante, nitidâ, obsoletè striatâ, spirâ brevi, apice acuto; anfractibus quaternis, angustis, convexiusculis, lentè crescentibus, ultimo maximo, turbinato, anticè attenuato et acuminato, aperturâ amplâ, semiovatâ, anticè latè emarginatâ, columellâ angustâ, contortâ.*

CUVIER'S MAGILUS. Shell subglobose, short, inflated in the middle, thin, white, pellucid, yellowish at the apex, smooth, obsoletely striated, spire short, with sharp apex; whorls four, narrow, rather convex, slowly increased, last very large, turbinate, anteriorly attenuated and acuminated, aperture wide, semi-ovate, anteriorly widely emarginated, columella narrow, twisted.

DESHAYES. Conch. Ile de la Réunion, p. 128, pl. xiii. f. 6-7.

Hab. Isle of Bourbon (Réunion).

It is just possible this little glossy shell is but the young of Magilus antiquus.

Species 5. (Fig. *a*, *b*, Mus. Brit.)

MAGILUS COSTATUS. *Mag. testâ nucleo globuloso spiraliter distantè costato, solido, deindè in tubum subtrigoneum irregularem producto, latere externo costis*

septem ad octo validis, distantibus, laqueato, latere interno laminis latis, callosis rugato; apice brevissimo; tubo infrà obtusè carinato.

THE RIBBED MAGILUS. Shell with a subglobose, spirally distantly ribbed solid nucleus, then produced into a subtrigonal irregular tube, outer side fluted with seven to eight strong, distant ribs; inner side roughened with broad callous layers; apex very short; tube obtusely carinated below. SOWERBY.

Hab ——?

The strongly ribbed shell in the collection of the British Museum appears to be unique.

6a

7a

7b

6b

8

9a

10

9b

Sowerby, del et lith

Vincent Brooks Day & Son, Imp.

MAGILUS.

PLATE III.

Species 6. (Fig. *a*, *b*, Mus. Scott.)

MAGILUS STRIATUS. *Mag. testâ bulbiformi, subturbinatâ, tenui, undulatim striatâ, infrà subcontractâ, spirâ brevi; anfractibus duobus, obtusis, suturâ obsoletâ; aperturâ magnâ, subpyriformi, labio interno vix reflexo, columellâ obliquâ, tortuosâ, anticè productâ; labio externo in medio amplo, anticè propè canalem subcontracto.*

THE STRIATED MAGILUS. Shell bulb-shaped, subturbinate, thin, undulately striated, slightly contracted below, spire short; whorls two, obtuse, suture obsolete; aperture large, somewhat pyriform, inner lip scarcely reflected, columella oblique, tortuous, anteriorly produced; outer lip wide in the middle, anteriorly contracted near the canal.

RÜPELL (Leptoconchus). Trans. Zool. Soc., vol. i. p. 259, pl. 35, figs. 9, 10.

MAGILUS PERONII? LAMARCK.

Hab. Mauritius.

This shell is supposed to differ from the similarly shaped young of Magilus antiquus in the absence of a reflected inner lip. This may, however, result from the thickening of the lip being later in commencing. There is so much uncertainty respecting Lamarck's *Magilus Peronii*, that it is better to adopt the specific name given by the describer of the genus, Leptoconchus.

Species 7. (Fig. *a*, *b*, Mus. Brit.)

MAGILUS ELLIPTICUS. *Mag. testâ tenui, ovatâ, angustâ, squamoso-striatâ; infra medium spiraliter subcostatâ, spirâ cælatâ; aperturâ magnâ ovatâ, medio latâ, anticè obliquè acuminatâ; columellâ planiusculâ, valdè arcuatâ; labio externo suprà spiram elevato, propè canalem leviter excavato, ad canalem acuminato.*

THE ELLIPTICAL MAGILUS. Shell thin, ovate, narrow, squamosely striated; spirally slightly ribbed below the middle; spire concealed; aperture large, ovate, middle wide, anteriorly obliquely acuminated; columella rather flat, much arched; outer lip raised above the spire, slightly excavated near the canal, acuminated at the canal.

SOWERBY. Genera of Shells, No. 21.

Hab. Mauritius.

Species 8. (Fig. *a*, *b*, Mus. Brit.)

MAGILUS SERRATUS. *Mag. testâ ovato-subglobosâ, tenui, spiraliter costis leviter elevatis, rugoso-striatis cinctâ; spirâ brevissimâ, obtusâ, anfractus uno; aperturâ magnâ, margine serrato; columellâ arcuatâ.*

THE SERRATED MAGILUS. Shell ovately subglobose, thin, spirally circled by slightly elevated, rugosely striated ribs; spire very short, obtuse, with a single whorl; aperture large, with serrated margin; columella arched.

DESHAYES? MS. in Mus. Brit.

Hab. ——?

The spiral rounded and serrated ribs of this species are represented in *Magilus striatus* by only very slight spiral impressed lines, with the striation slightly raised. In the present species the ribs are marked by crenations at the edge of the outer lip. Some specimens, however, of *Magilus antiquus* in a young state, show this character with equal force.

Species 9. (Fig. *a*, *b*, Mus. Brit.)

MAGILUS FIMBRIATUS. *Mag. testâ irregulariter subovatâ, patulâ, depressâ, costis radiantibus, et marginibus extantibus laminatis concentricis latè dorso cancellatâ; spirâ depressâ, acutâ, anfractibus duobus,*

minutis; aperturâ subovatâ, labiis longè suprà spiram elevatis, latè expansis, tenuiter fimbriatis; canali angusto, obliquo.

THE FIMBRIATED MAGILUS. Shell irregularly subovate, patulous, depressed, widely cancellated at the back with radiating ribs and raised, laminated, concentric edges; spire depressed, acute, whorls two, minute; aperture subovate, lips elevated far above the spire, widely expanded, finely fimbriated; canal narrow, oblique.

A. ADAMS. (Coralliobia.) Proc. Zool. Soc., 1852, p. 93.

Hab. Cagayan, Province of Misamis; Isl. Mindanao, Philippines.

This species was first described as a Concholepas in the Proceedings of the Zoological Society. In the Genera of Messrs. Adams, however, it is placed as a subgenus of Leptoconchus under thename of *Coralliobia*. The appearance of the shell is that of a delicately sculptured Concholepas.

Species 10. (Fig. 10.)

MAGILUS GLOBULOSUS. *Mag. testâ, ovato-subglobosâ, longitudinaliter striatâ, tenui; spirâ conicâ, subacuminatâ, anfractibus duobus, ultimo inflato, aperturâ subobliquâ, labio externo ad suturam obliquè super anfractum ultimum extenso, columellâ brevi, tortuâ.*

THE GLOBULAR MAGILUS. Shell ovately subglobose, longitudinally striated, thin; spire conical, subacuminated; whorls two, the last inflated; aperture suboblique; outer lip obliquely extended at the suture over the last whorl; columella short, tortuous.

DESHAYES. —— ? MS. Brit. Mus.

Hab. —— ?

In this species, as in *Magilus Cumingii*, the body whorl is large in proportion to the aperture, but *M. globulosus* is not at all attenuated at the base.

11 a

11 b

12 a

12 b

13 a

14 a

14 b

13 b

15 a

15 b

16 a

16 b

Sowerby del et lith

Vincent Brooks Day & Son, Imp.

MAGILUS.

PLATE IV.

Species 11. (Fig. *a*, *b*, Mus. Deshayes.)

MAGILUS RUPELLII. *Mag. testâ obtusè subpyriformi, tenui, fragile, spirâ brevi, callo vitreo indutâ; anfractibus tribus aut quatuor, angulatis, ultimo maximo anticè attenuato, lamellis numerosis brevibus irregularibus tenuissimis asperato; aperturâ paulo obliquâ, elongatâ, quadrangulari, basi effusâ; columellâ callosâ, attenuatâ.*

RÜPELL'S MAGILUS. Shell obtusely subpyriform, thin, fragile, spire short, covered with a vitreous callus; whorls three or four, angular, the last large, anteriorly attenuated, roughened with numerous short, irregular, very thin laminæ; aperture a little oblique, elongated, quadrangular, effuse at the base; columella callous, attenuated.

DESHAYES. Con. Isl. de la Réunion, p. 126, pl. 11, f. 4-5.

Hab. Isl. Bourbon (Réunion).

Differing from the other species in its obtusely pyriform shape.

Species 12. (Fig. *a*, *b*, Mus. Brit.)

MAGILUS SOLIDIUSCULA. *Mag. testâ parvâ, angustâ, pyriformi, anticè subattenuatâ, læviusculâ, solidâ, infra medium spiraliter costatâ; spirâ brevi, obtusâ, subconicâ; aperturâ angustâ, anticè obliquè subrostratâ, labio interno latè reflexo, columellâ planiusculâ, subtortuosâ, attenuatâ; labio externo versus canalem subsinuato.*

THE SOLID MAGILUS. Shell small, narrow, pyriform, anteriorly sub-attenuated, rather smooth, solid, spirally ribbed below the centre, spire short, obtuse, rather conical; aperture narrow, anteriorly obliquely subrostrated, inner lip widely reflected, columella rather flat, slightly twisted, attenuated; outer lip rather sinuous towards the canal.

PEASE ——? MS. in Brit. Mus.

Hab. Sandwich Islands.

The narrow form, smooth surface, and comparative solidity of this species distinguish it from others.

Species 13. (Fig. *a*, *b*, Mus. Taylor.)

MAGILUS ROBILLARDI. *Mag. testâ solidâ, pyriformi, laminis elevatis concentricis et costis spiralibus subdistantibus cancellatâ; spirâ brevissimâ, laminis callosis, reflexis celatâ; aperturâ patulâ, magnâ, columellâ angustâ, subcomplanatâ, canali plus minusve in rostram producto; labio interno incrassato, calloso; labio externo supra spiram elevato, anticè propè canalem contracto, inflexo.*

ROBILLARD'S MAGILUS. Shell solid, pyriform, cancellated with elevated concentric laminæ, and spiral rather distant ribs; spire very short, hidden by callous reflected laminæ; aperture patulous, large, columella narrow, rather flattened, canal more or less produced into a beak; inner lip thickened, callous; outer lip raised above the spire, anteriorly contracted near the canal, inflected.

LEONARDI. Journ. de Conch. xv. p. 305, pl. 1, f. 1.

Hab. Mauritius.

This species, although cancellated at the back, is quite distinct from *Magilus fimbriatus*.

Species 14. (Fig. *a*, *b*, Mus. Taylor.)

MAGILUS LAMARCKII. *Mag. testâ subelongatâ, fusiformi, tenuiusculâ, longitudinaliter striatâ; spirâ conicâ, obtusâ, anfractibus tribus, suturâ celatâ; aperturâ breviusculâ, anticè obliquè acuminatâ et productâ; columellâ arcuatâ, attenuatâ; operculo angusto, subarcuato.*

LAMARCK'S MAGILUS. Shell rather elongated, fusiform, rather thin, longitudinally striated; spire conical, obtuse, whorls three, suture concealed; aperture rather short, anteriorly obliquely acuminated and produced, columella arched, attenuated; operculum narrow, slightly arched.

DESHAYES (Leptoconchus). Conch. Isl. de la Réunion, p. 127, pl. xii. f. 1-3.

Hab. Isl. Bourbon (Réunion).

Species 15. (Fig. *a*, *b*, Mus. Brit.)

MAGILUS ROSTRATUS. *Mag. testâ parvâ, globosâ, solidiusculâ, longitudinaliter striatâ, spirâ brevissimâ, rotundâ, aperturâ anticè breviter rostratâ; columellâ validè arcuatâ, tortuosâ, attenuatâ.*

THE BEAKED MAGILUS. Shell small, globose, rather solid, longitudinally striated, spire very short, rounded, aperture shortly rostrated in front; columella strongly arched, tortuous, attenuated.

A. ADAMS (Leptoconchus). Ann. and Mag. Nat. Hist., 1864, vol. 13, 3rd series, p. 310.

Hab. —— ?

A small bulb-shaped species, with a distinct small beak.

Species 16. (Fig. *a*, *b*, Mus. Deshayes? Copied.)

MAGILUS MAILLARDI. *Mag. testâ subcylindraceâ, spiraliter costatâ, longitudinaliter tenuiter striatâ, spirâ brevi, obtusâ, contabulatâ; anfractibus quaternis, brevibus, lentè crescentibus, ultimo maximo, supernè obtusè angulato, aperturâ valdè obliquâ, subquadratâ; columellâ incrassatâ, valdè contortâ, anticè planâ.*

MAILLARD'S MAGILUS. Shell subcylindrical, spirally ribbed, longitudinally finely striated, spire short, obtuse, contabulated; whorls four, short, slowly increasing; the last very large, obtusely angular above, aperture very oblique, subquadrate; columella thickened, much twisted, anteriorly flat.

DESHAYES (Leptoconchus). Conch. Isl. de la Réunion, p. 124.

Hab. Isl. Bourbon (Réunion).

MAGILUS.

	Plate.	Species.
antiquus, *De Montford*	I.	1
costatus, *A. Adams*	II.	5
Cumingii, *Deshayes*	II.	2
Cuvieri, *Deshayes*	II.	4
ellipticus, *Sowerby*	III.	7
fimbriatus, *A. Adams*	III.	9
globulosus, *Deshayes* (?)	III.	10
Lamarckii, *Deshayes*	IV.	14
Maillardi, *Deshayes*	IV.	16
microcephalus, *Sowerby*	II.	3
Robillardi, *Lienard*	IV.	13
rostratus, *A. Adams*	IV.	15
Rupellii, *Deshayes*	IV.	11
serratus, *Deshayes* (?)	III.	8
solidiuscula, *Pease*	IV.	12
striatus, *Rüpell*	III.	6
Peronii, Lamarck	I.	1

MONOGRAPH

OF THE GENUS

CLAVAGELLA.

"In coral groves
Silent and dark, where the Sea-lion roves."—*Rogers.*

1a

1a

1c

2a

2

2c

3

CLAVAGELLA.

PLATE I.

Genus CLAVAGELLA, *Lamarck.*

Testa bivalvis, saxos madreporasque perforans, anticè bulbœformis, posticè in tubum attenuata. Tubus ante valvas in spinis tubuliformibus terminans. Valvæ edentulæ, intus margaritaceæ, ad marginem ventralem hiantes; sinistra libera, dextra in tubum affixa.

Shell bivalve, perforating rocks and madrepores, anteriorly bulb-shaped, posteriorly attenuated into a tube. Tube terminating in front of the valves in tube-formed spines. Valves edentulous, pearly within, gaping at the ventral margin; left free; right fixed in the tube.

In the fossil form, when the tube and valves are detached from the stone in which the mollusk burrowed when living, the Clavagella appears not unlike a rather bulb-shaped *aspergillum*; the small spinous tubes with which the large tube terminates, not, however, forming as in that genus the margin of a perforated disk. But when the shell is seen *in situ*, in a recent state, it is observed that the valves are not rudimentary points forming part of the tube, as in *aspergillum*, but are much more advanced and expanded, one only being fixed to the tube and forming part of it, while the other is free and moves on its hinge. Thus our present genus is exactly intermediate between FISTULA, having both valves quite free within the tube, and ASPERGILLUM, having both valves soldered into the tube.

Mr. G. B. Sowerby appears to have been the first to discover the existence of the genus in a recent state. Having obtained permission to scrape away the matrix from what was supposed to be a burrowing ASPERGILLUM, in the British Museum, he ascertained its true nature, and published a figure and description of the first known recent species under the name of CLAVAGELLA APERTA.

The eight or nine species now known are found in the Mediterranean, Australia, and the Pacific.

Species 1. (Fig. *a*, *b*, *c*, Mus. Brit.).

CLAVAGELLA BALANORUM. *Cla. testâ parvâ, camerâ ovatâ, valvâ sinistrâ irregulariter rugatâ, subtrigonâ, apice unguiculato, acuminato; tubo breviusculu, compresso, lævi.*

THE BALANUS CLAVAGELLA. Shell small, chamber ovate, left valve rather trigonal, irregularly wrinkled, with unguiculated acuminated apex; tube rather short, compressed, smooth.

SCACCHI. Philippi Enum. Moll. Sic., tom. ii. p. 1, tab. xiii. p. 2, *a*, *b*, *c*.

Hab. Mount Pausilypus. Mediterranean. In groups of Balani.

The specimen in the British Museum which we have figured, has been named as above by the authority of *Deshayes*.

Species 2. (Fig. *a*, *b*, *c*, Mus. Brit.).

CLAVAGELLA APERTA. *Cla. testâ in camerâ latâ decumbenti; valvâ sinistrâ trigonâ, irregulariter rugatâ, apice vix acuminato; tubo lato, margine latè reflexo et expanso, irregulariter latè laqueato, interdum duplicato.*

THE OPEN CLAVAGELLA. Shell lying in a broad chamber; left valve trigonal, irregularly wrinkled, apex scarcely acuminated; tube broad, margin widely reflected and expanded; irregularly broadly fluted; sometimes double.

SOWERBY, G. B., Genera of Recent and Fossil Shells, No. 13.

Hab. Mediterranean.

The margin of the tube is broadly expanded and rather trumpet-shaped.

Species 3. (Mus. Brit.)

CLAVAGELLA PHILIPPIANA. *Cla. testâ elongatâ; valvâ sinistrâ trigonâ, arcuatâ, extùs rugatâ; tubo elongato, ad latera subconstructo, ad terminum vix*

reflexo, antè terminum interdum laminâ subreflexâ marginatâ.

PHILIPPI'S CLAVAGELLA. Shell elongated, left valve trigonal, curved, wrinkled outside, tube elongated, slightly contracted, very little reflected at the margin, sometimes before the end bordered with a reflected lamina.

DESHAYES? MS. in Brit. Mus.

Clavagella Melitensis, var. rotunda, Philippi, non Brod.

Hab. Mediterranean.

The tube is very little reflected at the margin, and it is compressed at the sides, so as to form an oblong and somewhat clavate section.

4.a

4.c

4.d

4.b

5.c

5.b

5.d

5.a

Sowerby del et lith

Vincent Brooks Day & Son Imp

CLAVAGELLA.

PLATE II.

Species 4. (Fig. *a*, *b*, *c*, *d*, Mus. Brit., &c.).

CLAVAGELLA AUSTRALIS. *Cla. testâ clavatâ, valvâ sinistrâ tenui, rugosâ, oblongâ, modiolæformi; tubo elongato, rotundo, lævigato, margine recto, haud expanso.*

THE AUSTRALIAN CLAVAGELLA. Shell clâvate, left valve thin, rough, oblong, modiola-shaped; tube elongated, rounded, smooth, margin straight, not expanded.

SOWERBY (G. B. 1), Catalogue of Stutchburg's shells.

Hab. Australia and other parts of the Pacific.

The tube is rounded, with a straight edge, and the valves are oblong.

Species 5. (Fig. *a*, *c*, *d* (copied), fig. *b*, Mus. Brit.)

CLAVAGELLA MELITENSIS. *Cla. testâ anticè ventricosâ; valvâ sinistrâ subquadratâ, concentricè rugis subangulatis regularibus undulatâ; tubo longitudinaliter costato, ad terminum indentato.*

THE MALTESE CLAVAGELLA. Shell anteriorly ventricose; left valve subquadrate, concentrically undulated with somewhat angulated wrinkles; tube longitudinally ribbed, indented at the end.

BRODERIP, Trans. Linn. Soc., vol. i.

Hab. Malta.

In our figure may be seen the position of the small tubes which perforate the rock between the valves at the anterior end of the bulb-shaped tube. Their purpose seems to be to admit the free entrance of the water to the mollusk.

December, 1872.

6

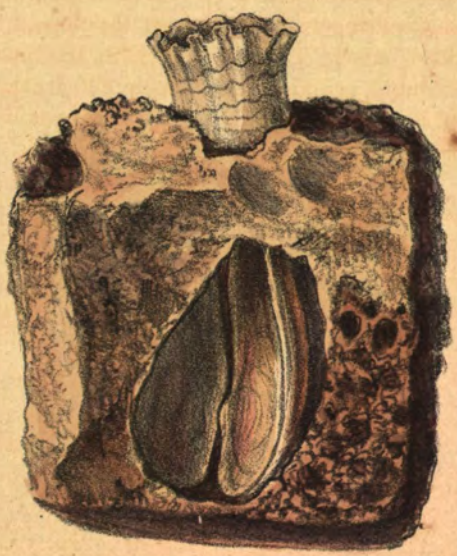
8c

8b

7a

7b

7c



8a

Sowerby del et lith

Vincent Brooks Day & Son, Imp

CLAVAGELLA.

PLATE III.

Species 6. (Mus. Brit.)

CLAVAGELLA LATA. *Cla. testâ ventricosissimâ; valvâ sinistrâ latissimâ, subtrigonâ, subconvexâ, externè concentricè rugosâ, intùs nitenti; tubo ignoto?*

THE BROAD CLAVAGELLA. Shell very ventricose, left valve very broad, subtrigonal, rather convex, externally concentrically rugose, shining within; tube not known?

BRODERIP. Trans. Zool. Soc., vol. i.

Hab. Pacific.

Species 7. (Fig. *a*, *b*, *c*, Mus. olim Scott. Copied.)

CLAVAGELLA ELONGATA. *Cla. testâ anticè subpyriformi; valvâ sinistrâ elongatâ, subtrigonâ, extùs concentricè valde rugosâ, intùs nitenti, apice unguiculato, producto, acuminato; tubo elongato, concentricè sinuatim rugato.*

THE ELONGATED CLAVAGELLA. Shell anteriorly subpyriform; left valve elongated, subtrigonal, concentrically very much wrinkled outside, shining inside, apex unguiculated, produced, acuminated; tube elongated, concentrically sinuously wrinkled.

BRODERIP. Trans. Zool. Soc., vol. i.

Hab. Pacific?

Species 8. (Fig. *a*, *b*, *c*, Mus. Sowerby.)

CLAVAGELLA LAQUEATA. *Cla. testâ ventricosâ; valvâ sinistrâ latissimâ, subtrigonâ, subconvexâ, concentricè rugatâ; tubo lato, rotundato, propè terminum longitudinaliter subrugato, ad terminum subreflexo, crebrè laqueato.*

THE FLUTED CLAVAGELLA. Shell ventricose; left valve very wide, subtrigonal, rather convex, concentrically wrinkled; tube broad, rounded, near the end longitudinally slightly wrinkled, at the end rather reflected, closely fluted.

SOWERBY.

Hab. Mediterranean?

The free valve of this species is so broad and convex, besides being so regularly wrinkled, that it was at first supposed to belong to Mr. Broderip's *Clavagella lata*, but as that shell is imbedded in a different kind of rock, and its tube is undescribed, it will be better to treat the present as new. It differs from *Clavagella aperta*, in the much less open and reflected and more closely fluted character of its tube, as well as in the totally different character of its free valve.

December, 1872.

MONOGRAPH

OF THE GENUS

LIMNÆA.

"Muscle and nerve miraculously spun,
His mighty work, who speaks and it is done."—*Cowper.*

1.

2.

3.

4 a.

5.

6.

4. b.

7 a.

7. b.

7. c.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

LIMNÆA.

PLATE I.

Genus LIMNÆA, *Lamarck.*

Testa dextrorsè spiralis, testaceo-cornea, ovata seu pyramidata, epidermide tenui induta; spira acuminata, anfractibus plerumque turritis, labio interno aperturæ super anfractum ultimum angustè expanso, plerumque uniplicato. Operculum nullum.

Shell dextrally spiral, horny-testaceous, ovate or pyramidal, covered with a thin epidermis; spire acuminated, whorls generally turreted, inner lip of the aperture narrowly spread on the body-whorl, generally with a single plait. No operculum.

The *Limnææ* are to be found in every part of the world where there are small streams of running water, or stagnant pools, or inland lakes. Not only the genus but the species have a very wide range, our British species being mostly found in all parts of the Continent. The characters of some American species so nearly resemble the European forms as to be almost undistinguishable. Australian forms have an inflated character almost peculiar to them; and among the Indian species are some conical and some boat-shaped forms, also strikingly differing from our plain horny species in presenting some varieties in colouring. The species separated under the name of AMPHIPEPLÆA, *Nilsson*, are characterized by a greater degree of polish on the shell, caused by a lobe of the mantle covering part of it. Our British *L. glutinosa* presents an example of this, and the shell itself is nearly involute, having scarcely any spire.

Species 1. (Mus. Brit., and fig. *b*, pl. ii.)

LIMNÆA AURICULARIA. *Lim. testâ latâ, patulâ, pallidè corneâ; spirâ brevissimâ, anfractibus tribus, parvis; ultimo anfractu inflato, breviusculo; aperturâ maximâ, labio externo latè expanso; plicâ columellari validâ, elevatâ, tortuâ.*

THE AURICULAR LIMNÆA. Shell broad patulate, pale horn; spire very short, whorls three, small; last whorl inflated, rather short; aperture very large, outer lip broadly expanded; columellar fold strong, elevated, tortuous.

DRAPARNAUD. Mollusques de France, pl. 2, f. 28.

Limnæa auricularia, Linnæus.

Hab. Britain and other parts of Europe.

Species 2. (Mus. Brit.)

LIMNÆA GLABER. *Lim. testâ subcylindricâ, angustâ, elongatâ, pallidè fulvâ; spirâ elevatâ, aperturam longitudine multo superanti; anfractibus quinque, convexis, duobus medianis latiusculis, duobus apicalibus minutis; ultimo anfractu ovali, suprà aperturam elevatâ; aperturâ oblongâ, anticè latiusculâ, plicâ columellari crassâ, rectiusculâ.*

THE SHINING LIMNÆA. Shell subcylindrical, narrow, elongated, pale fulvous; spire elevated, much exceeding the aperture in length; whorls five, convex, the middle two rather broad, the apical two minute; last whorl oval, elevated above the aperture; aperture oblong, rather broad in front, columellar fold thick, rather straight.

MÜLLER. Schroet. Huss., pl. 7, f. 15.

Hab. Great Britain.

The British *Limnæa octanfracta* and the American *L. elongata* may possibly be varieties of this.

Species 3. (Mus. Brit.)

LIMNÆA TRUNCATULA. *Lim. testâ brevi, solidiusculâ, pallidè fuscâ, spirâ conicâ, aperturam longitudine paulò superanti, anfractibus quatuor, breviusculis, rotundis; ultimo anfractu brevìter subcylindraceo; aperturâ oblongo-subquadratâ, anticè truncatâ, labio interno crassiusculo, anticè rectiusculo, plicâ columellari haud prominenti.*

THE TRUNCATED LIMNÆA. Shell short, rather solid, pale brown, spire conical, a little exceeding the aper-

ture in length ; whorls four, rather short, rounded ; last whorl shortly subcylindrical ; aperture oblong-subquadrate, anteriorly subtruncated ; inner lip rather thick, anteriorly rather straight, columellar fold not prominent.

MÜLLER. *Pfeiffer*, Syst. Anond., pl. 4, f. 27.

Limnæa fossaria, Turton ?

Limnæa minuta, Draparnaud ?

Limnæa turrita, Sowerby ?

Species 4. (Fig. *a*, *b*, Mus. Brit.)

LIMNÆA STAGNALIS. *Lim. testâ eleganter pyramidatâ, corneo-fulvâ ; spirâ elevatâ, acuminatâ, attenuatâ, aperturam longitudine paulò superanti ; anfractibus attenuatis, obliquis, posticè declivibus, medio leviter angulatis ; ultimo anfractu inflato ; aperturâ magnâ subquadratâ, labio externo ad medium sinuatim producto ; labio interno subexpanso, plicâ columellari prominenti, spiraliter tortuâ, recurvâ.*

THE STAGNANT LIMNÆA. Shell elegantly pyramidal, horny-fulvous ; spire elevated, acuminated, attenuated, a little longer than the aperture ; whorls attenuated, oblique, sloped posteriorly, slightly angular in the middle ; last whorl inflated ; aperture large, subquadrate, outer lip sinuously produced in the middle ; inner lip somewhat expanded, columellar fold prominent, spirally tortuous, recurved.

LINNÆUS. Systema Naturæ.

Limnæa strigata, Parreys.

Limnæa bicolor ? Muhlfelds.

Hab. Great Britain, and Europe generally.

Species 5. (Mus. Brit.)

LIMNÆA PALUSTRIS. *Lim. testâ fumoso-corneâ, crassiusculâ, pyramidatâ ; spirâ elevatâ, aperturam longitudine superanti ; anfractibus æqualiter crescentibus, paulò convexis ; ultimo anfractu spiraliter rugatis ; aperturâ breviusculâ, anticè latiusculâ ; plicâ columellari conspicuâ, tortuâ, anticè subrecurvâ.*

THE MARSH LIMNÆA. Shell smoky-horn, rather thick, pyramidal ; spire elevated, exceeding the aperture in length ; whorls equally increasing, a little convex ; last whorl spirally wrinkled ; aperture rather short, anteriorly rather broad ; columellar plait conspicuous, tortuous, anteriorly curved a little backwards.

DRAPARNAUD. Mollusques de France, pl. 2, f. 40-42.

Limnæa cornea, Valenciennes ?

Limnæa fragilis, Linn. ?

Limnæa speciosa, —— ?

It is not known to which of several species the *L. fragilis* of Linnæus belonged.

Species 6. (Mus. Brit.)

LIMNÆA UMBROSA. *Lim. testâ fumoso-corneâ, solidiusculâ, cylindraceo-subpyramidatâ, spirâ elevatâ, multò aperturam longitudine superanti ; anfractibus quinque, quarum tribus apicalibus parvis, acuminatis, penultimo ultimoque elongatis, subcylindraceis, ultimo spiraliter rugato, suprà aperturam elevato ; aperturâ latâ, plicâ columellari elevatâ, conspicuâ, tortuâ, retrorsim arcuatâ.*

THE SHADOWY LIMNÆA. Shell smoky-horn, rather solid, cylindrically subpyramidal, spire elevated, much longer than the aperture ; whorls five, of which the three apical ones are small, acuminated, the penultimate and last long, subcylindrical, the last spirally wrinkled, raised above the aperture ; aperture broad, columellar fold elevated, conspicuous, tortuous, arched backwards.

SAY. American Conchology, Limnæa, fig. 3.

Limnæa obscura, Zeigler.

Hab. N. America.

In this species, the two last whorls are elongated and full, giving a cylindrical appearance to the figure. *L. reflexa*, Say, is comparatively long and narrow, but with the whorls more equally increasing. *L. elodes* is more like our *L. palustris*, but more oblique, with the mouth and last whorl more oval.

Species 7. (Fig. *a*, *b*, *c*, Mus. Brit.)

LIMNÆA PEREGRA ? *Lim. testâ subovatâ, corneâ, spirâ breviùsculâ, acuminatâ, anfractibus tribus, plerumque castaneis ; ultimo anfractu ovato ; aperturâ magnâ, latâ, spiram longitudine superanti ; plicâ columellari elevatâ, rectiùsculâ.*

THE WANDERING LIMNÆA. Shell subovate, horny, spire rather short, acuminated, whorls three, generally chestnut ; last whorl ovate ; aperture large, broad, exceeding the spire in length ; columellar fold elevated, rather straight.

FERRUSSAC.

Limnæa lineata, —— ?

Limnæa glacialis, —— ?

8. a.

9. a.

9. b.

10.

11. a.

11. b.

12.

1. b.

13.

8. b.

Sowerby, del et lith.

Vincent Brooks Day & Son, Imp.

LIMNÆA.

PLATE II.

Fig. *b*. A peculiar variety of *Limnæa auricularia; vide* Plate I.

Species 8. (Fig. *a*, *b*, Mus. Brit.)

LIMNÆA INVOLUTA. *Lim. testâ ovato-subcylindricâ, involutâ, corneo-rubescenti, aperturâ oblongâ, anticè amplissimâ, labio externo posticè suprà spiram elevato, columellâ uniplicatâ; spirâ concavâ, anfractibus subcœlatis.*

THE INVOLUTE LIMNÆA. Shell ovately-subcylindrical, involute reddish horn, aperture oblong, very full in front, outer lip elevated posteriorly above the spire, columella single-plaited; spire concave, with the whorls nearly hidden.

HARVEY (Amphipeplæa) —— ?

Hab. Killarney, Ireland, &c.

This species is the type of a group of Limnæadæ which has been separated under the generic appellation *Amphipeplæa*, having hollow or partly hidden spires. The gradation through *L. glutinosa*, *L. Cumingii*, &c., to others with slightly raised spires is gradual.

Species 9. (Fig. *a*, *b*, Mus. Brit.)

LIMNÆA GLUTINOSA. *Lim. testâ subglobosâ, tenuissimâ, post columellam subumbilicatâ; aperturâ maximâ, columellâ uniplicatâ, tortuâ, arcuatâ, labio interno tenuissimè expanso; ultimo anfractu parvo, spirâ subinvolutâ, apice vix producto.*

THE GLUTINOUS LIMNÆA. Shell subglobose, very thin, subumbilicated behind the columella; aperture very large, columella single-plaited, tortuous, arched, inner lip very thinly spread, last whorl small, spire nearly involute, with scarcely produced apex.

DRAPARNAND. Mich. Compl. Drap., p. 38, Pl. 16, f. 13, 14.

Hab. Germany, Great Britain.

In the second species of *Amphipeplæa* the apex is a little raised.

Species 10. (Mus. Brit.)

LIMNÆA PATULA. *Lim. testâ elongatâ, tenui, pallidâ, ovatâ, posticè attenuatâ, anfractu ultimo oblongo, angusto, columellâ tenuiter uniplicatâ, labio interno tenuissimè expanso; aperturâ magnâ; labio externo posticè subrotundo, medio paulo sinuatim producto; spirâ elongatâ, attenuatâ, anfractibus tribus pyramidalibus*

THE PATULOUS LIMNÆA. Shell elongated, thin, pale, ovate, posteriorly attenuated, with the last whorl oblong narrow; columella thinly uniplicate, inner lip very thinly expanded; aperture large; outer lip rather rounded posteriorly, a little sinuously produced in the middle; spire elongated, attenuated, with three pyramidal whorls.

TROSCHEL. —— ?

Hab. River Ganges.

Not unlike *Limnæa rufescens*, Gray, but less pyramidal, having the upper part of the last whorl much more full and rounded.

Species 11. (Mus. Brit.)

LIMNÆA MEGASTOMA. *Lim. testâ subovatâ, solidiusculâ, longitudinaliter rugis lævigatis haud profundis liratâ, epidermide subflavido glabro indutâ, intùs purpureo; labio interno anticè uniplicato, posticè albo; subsolido; anfractu ultimo ventricoso; spirâ breviùsculâ, anfractibus propè suturam subangulatis.*

THE LARGE-MOUTHED LIMNÆA. Shell subovate, rather solid, ridged longitudinally with smooth, not deep wrinkles, covered with a rather yellow glabrous epidermis, purple within; inner lip with one anterior fold, posteriorly white, rather solid; last whorl ventricose; spire rather short, whorls rather angular near the suture.

SAY. Haldeman's Journal, Pl. 3, f. 1.

Limnæa columella. Say.

Hab. New York.

March, 1872.

Species 12. (Fig. *a*, *b*, Mus. Brit.)

LIMNÆA ANGASI. *Lim. testâ subglobosâ, fuscâ, tenuissimâ, strigis opacis albidis interruptis ornatâ; aperturâ amplissimâ, anticè expansâ, labio externo supernè producto; plicâ columellari tenui, spirali, arcuatâ; spirâ brevissimâ, acutâ.*

THE ANGAS LIMNÆA. Shell subglobose, brown, very thin, ornamented with opaque white interrupted stripes; aperture very wide, expanded in front, outer lip produced above; columellar fold thin, spiral, arched; spire very short, acute.

SOWERBY.

Hab. Port Darwin, Northern Australia.

This interesting species belongs to the *Amphipeplæa* group. The surface presents a positive reddish-brown colour, variegated by opaque white interrupted stripes. In this respect the species differs from all the other known species.

Species 13. (Mus. Sowerby.)

LIMNÆA ACUTA. *Lim. testâ subpyriformi acuminatâ; subopacâ; anfractibus quatuor, quarum tribus spiralibus subventricosis, distinctis, lateralem rotundatis, ultimo expanso, obliquo; aperturâ ovatâ; labio interno angusto, plicâ columellari subobsoletâ, elevatâ, vix arcuatâ; apice acuminato.*

THE ACUTE LIMNÆA. Shell rather pyriform, acuminated rather opaque; whorls four, of which the three spiral are rather ventricose, distinct, laterally rounded; the last expanded, oblique; aperture ovate; inner lip narrow, columellar fold rather obsolete, raised, scarcely arched; apex acuminated.

JEFFREYS. British Mollusca.

Hab. Great Britain, and Europe generally.

Although having a larger and more produced spire than the normal form of *Limnæa peregra*, it is possibly, as now thought by Mr. Jeffreys, only a variety of that species; yet sufficiently marked for notice.

14 a.

15.

16.

14. b.

17.

18.

14. c.

19. a.

19. b.

20.

Sowerby, del. et lith.

Vincent Brooks, Day & Son, Imp.

LIMNÆA.

PLATE III.

Species 14. (Fig. *a*, *b*, *c*, Mus. Brit.)

LIMNÆA RUFESCENS. *Lim. testâ elongato-pyramidatâ, tenui, pallidè corneâ, vel rufescenti vel purpurascenti; spirâ attenuatâ, acuminatâ, anfractibus elongatis, pyramidatis, ultimo, oblongo, anticè subexpanso; columellâ uniplicatâ, arcuatâ, labio interno tenui, angusto.*

THE REDDISH LIMNÆA. Shell elongate-pyramidal, thin, pale horny or reddish or purplish; spire attenuated, acuminated, whorls elongated, pyramidal, the last oblong, anteriorly subexpanded; columella uniplicated, arched, inner lip thin, narrow.

GRAY. Reeve, Conch. Syst., pl. 191, f. 2.

Hab. India.

Species 15. (Mus. Brit.)

LIMNÆA OVATA. *Lim. testâ ovatâ, ventricosâ, opacâ, corneâ, rectiùsculâ; spirâ brevi, acutâ; anfractu penultimo rotundo, ultimo magno, post columellam concavo, aperturâ ovatâ, latâ, labio interno solidiùsculo, angusto, plicâ, columellari crassiusculâ rectiùsculâ.*

THE OVATE LIMNÆA. Shell ovate, ventricose, opaque, horny, rather straight; spire short, acute; penultimate whorl rounded, last whorl large, concave behind the columella, aperture ovate, broad, inner lip rather solid, narrow, columella fold rather thick, rather straight.

DESPARNAUD. Moll., pl. 2, f. 30, 31.

Hab. Europe.

It must still be an open question whether such species as *Limnæa ovata*, *acuta*, *intermedia*, and *pereger* should or should not be united under the latter name. The writer does not decide this question, but only attempts to show the characteristics of each.

Species 16. (Mus. Brit.)

LIMNÆA INTERMEDIA. *Lim. testâ subovatâ, ventricosâ, obliquâ, corneâ, subopacâ; spirâ breviùsculâ, anfractu penultimo inflato, ultimo obliquè expanso, post columellam concavo, aperturâ obliquè subovatâ, latâ; plicâ columellari elevatâ, solidâ, subtortuosâ.*

THE INDETERMINATE LIMNÆA. Shell subovate, ventricose, oblique, horny subopaque; spire rather short, penultimate whorl inflated, last whorl obliquely expanded, concave behind the columella, aperture obliquely subovate, broad, columellar fold elevated, solid, a little tortuous.

FERRUSSAC. Mich. Compl. Descrip., pl. 16, pp. 17, 18.

Hab. France.

If this be a distinct species, it may be considered intermediate in form between *Limnæa pereger* and *L. auricularia*.

Species 17. (Mus. Brit.)

LIMNÆA FUSCA. *Lim. testâ pyramidatâ, angustâ, opacâ, pallidè lacteo-subpurpureâ; spirâ elongatâ pyramidatâ, anfractibus quatuor compressis, fusco-rufescentibus; apice acuminato; aperturâ parvâ, intùs castaneâ; plicâ columellari brevi, rectiùsculâ.*

THE BROWN LIMNÆA. Shell pyramidal, narrow, opaque, pale milky-purplish; spire elongate-pyramidal, with four compressed reddish-brown whorls, apex acuminated; aperture small, chestnut within; columellar fold short, rather straight.

PFEIFFER. Land and Freshw., vol. ii. pl. 4, fig. 25.

Hab. Dalmatia.

Not unlike the British *L. palustris*, but with straight-sided whorls, and dark chestnut colour in the mouth.

Species 18. (Mus. Brit.)

LIMNÆA PINGUIS. *Lim. testâ angustè ovatâ, rectiùsculâ, subsalmoneâ; spirâ breviùsculâ, obtusiùsculâ, anfractibus parvis, fusco-rubescentibus; ultimo magno; aperturâ mediocri, ovatâ, plicâ columellari subtortuosâ.*

THE FAT LIMNÆA. Shell narrowly ovate, rather straight, of a slightly salmon colour; spire rather

short, rather obtuse, whorls small, reddish-brown, the last large, ovate; aperture middle-sized, ovate, columellar fold rather tortuous.

SAY. Journ. Acad. Sci. Phil., vol. ii. p. 123.

Limnæa desidiosa, Say?

Hab. N.W. Territory, United States.

Species 19. (Fig. *a*, *b*, Mus. Brit.)

LIMNÆA GRACILIS. *Lim. testâ angustissimâ, attenuatâ, pallidè corneo, spirâ elongatâ, aculeatâ, anfractibus quatuor, attenuatis, subpyramidatis, ultimo paulò expanso; aperturâ brevi, angusto, labio externo suprâ deflexo, columellâ rectiùsculâ.*

THE SLENDER LIMNÆA. Shell very narrow, attenuated, pale horn, spire long, aculeated, whorls four, attenuated, subpyramidal, the last a little expanded; aperture short, narrow, outer lip bent downwards above, columella rather straight.

SAY (Acella). Haldeman, Mon., pl. 13, f. 21.

Hab. Vermont.

This species is so singular in form that it has been thought worth while to separate it generically under the name of ACELLA.

Species 20. (Mus. Brit.)

LIMNÆA APPRESSA. *Lim. testâ subpyriformi, opacâ, corneâ, gracili, spirâ elongatâ, pyramidatâ, attenuatâ, anfractibus lateraliter appressis, ultimo expanso, anticè subacuminato; aperturâ breviùsculâ.*

THE APPRESSED LIMNÆA. Shell subpyriform, opaque, horny, slender, spire elongated, pyramidal, attenuated, whorls compressed at the sides, the last expanded, subacuminated anteriorly; aperture rather short.

SAY. Journ. Am. Nat. Sci. Phil., vol. ii. p. 168.

Hab. Vermont.

More slender than the European *L. stagnalis*, and having the whorls pressed together at the sides, without the angular form of that well-known species

21 a.

22.

23.

24 a.

25. a.

25. b.

24. b.

26.

27.

21. b.

Sowerby, del et lith.

Vincent Brooks, Day & Son, Imp.

LIMNÆA.

PLATE IV.

Species 21. (Fig. *a*, *b*, Mus. Cum. in Brit.)

LIMNÆA ACICULA. *Lim. testâ, parvâ, corneâ, lutescenti, longitudinaliter leviter liratâ, angustâ, acuminatâ, subpyramidatâ; spirâ attenuatâ, anfractibus lateraliter appressis, ultimo anticè subexpanso; aperturâ breviùsculâ; labio interno angusto, plicâ columellari rectiùsculâ.*

THE ACICULATE LIMNÆA. Shell small, horny, yellowish, longitudinally lightly ridged, narrow, acuminated, subpyramidal, spire attenuated, whorls pressed up at the sides, the last a little expanded in front; aperture rather short; inner lip narrow, columellar fold rather straight.

KOKIEL.

Hab. Styria.

A curiously attenuated little shell.

Species 22. (Mus. Brit.)

LIMNÆA HOLBOLLII. *Lim. testâ ovato-subacuminatâ, corneo-rubescenti; spirâ productâ, anfractibus quatuor, rotundis, ultimo ventricoso, post columellam concavo; aperturâ breviùsculâ, intùs succineâ, plicâ columellari validâ.*

HOLBOLLI'S LIMNÆA. Shell ovately subacuminated, reddish-horn; spire produced, whorls four, rounded, the last ventricose, concave behind the columellar fold. Aperture rather short, within amber coloured; columella fold solid.

BECK.

Hab. Greenland.

The mouth and spire are about equal in length.

Species 23. (Mus. Brit.)

LIMNÆA VAHLII. *Lim. testâ oblongo-ovatâ, semipellucidâ, corneo-rubescenti, spirâ subacuminatâ, anfractibus quatuor, quarum tribus parvis leviter rotundis, ultimo elongato, ovato; aperturâ subpyriformi, plicâ columellari tortâ, breviùsculâ, subspirali.*

VAHL'S LIMNÆA. Shell oblong-ovate, semipellucid, reddish-horny; spire subacuminated, whorls four, of which three are small, slightly rounded, the last elongated, ovate; aperture subpyriform, columellar fold tortuous, rather short, subspiral.

BECK. Moll.

Hab. Greenland.

Resembling *Limnæa. Holbollii*, but more ovate, having the body-whorl longer in proportion to the spire.

Species 24. (Fig. *a*, *b*, Mus. Brit.)

LIMNÆA JUGULARIS. *Lim. testâ magnâ, pyriformi, pallidè corneâ, lineis albidis longitudinalibus interruptis irregularibus strigatâ; spirâ elevatâ, subattenuatâ, acuminatâ, anfractibus tribus elongatis, vix medio inflatis, ultimo maximo, subovato, anticè expanso, subtruncato; aperturâ subpyriformi, anticè valdè expansâ; labio interno subexpanso, plicâ columellari subspirali, elongatâ.*

THE JUGULAR LIMNÆA. Shell large, pyriform, pale horn striped with longitudinal interrupted irregular whitish lines. Spire elevated, subattenuated, acuminated, with three elongated whorls very little swollen in the middle; the last very large, subovate, expanded and subtruncated in front; aperture much expanded in front; inner lip a little expanded, columellar fold subspiral, elongated.

SAY. Haldeman's Mon., pl. 4.

Hab. New York.

This species resembles our *Limnæa stagnalis*, but differs in proportions, and the whorls are neither so suddenly expanded nor so angular as in that species.

Species 25. (Fig. *a*, *b*, Mus. Brit.)

LIMNÆA SWINHOEI. *Lim. testâ ovatâ, fragili, irregulariter striatâ, pallidè corneâ; spirâ acuminatâ, anfractibus quatuor, convexiùsculâ; aperturâ ovato-oblongâ $\frac{2}{3}$ totius longitudinis æquante; columellâ valdè sinuatâ; labro flexuoso, in medio subsinuato.*

SWINHOE'S LIMNÆA. Shell ovate, fragile, irregularly striated, pale horn; spire acuminated, whorls four, rather convex; aperture ovate-oblong, equalling two-thirds of the entire length; columella much twisted; outer lip flexuous, slightly sinuated in the middle.

H. ADAMS. Proc. Zool. Soc., 1866, pl. xxxiii., f. 13.

Hab. Takon, Isl. Formosa.

Species 26. (Mus. Brit.)

LIMNÆA SUCCINEA. *Lim. testâ ovato-acuminatâ, tenuissimâ, pallidè corneâ, translucidâ, spirâ breviùsculâ, anfractibus convexiùsculis duobus apicalibus parvis, penultimo subelongato, ultimo ovato; aperturâ subovatâ, labio externo ad marginem fuscato, plicâ columellari tenui, leviter tortuosâ.*

THE AMBER LIMNÆA. Shell ovately acuminated, very thin, pale horn, translucid, spire rather short; whorls rather convex, the two apicial ones small, the penultimate rather elongated, the last large, ovate; aperture subovate, outer lip brown at the margin, columellar fold thin, slightly tortuous.

DESHAYES. Voy. Belanger, Pl. ii., f. 13, 14.

Hab. Malabar.

It is of an oval form a little sharpened at the apex, and very light and transparent.

Species 27. (Mus. Brit.)

LIMNÆA GEISERICOLA. *Lim. testâ parvâ, obliquè subovatâ, ferrugineâ, opacâ, spirâ brevi, anfractibus duobus apicalibus parvis, rotundis, penultimo majusculo, ultimo inflato, anticè tumidiùsculo; post columellam concava, aperturâ obliquâ pyriformi, anticè obliquè expanso.*

THE HOT-SPRING LIMNÆA. Shell small, obliquely subovate, ferruginous, opaque, spire short, with two apicial whorls, small, rounded, the penultimate rather large, the last inflated, rather tumid in front, concave behind the columella; aperture oblique, pyriform, obliquely expanded in front.

BECK.

Hab. The Geysers or hot-springs of Iceland.

28 a.

29.

30

31

32. a.

32. b.

33.

31. a.

34. b.

28. b.

Sowerby, del.et lith.

Vincent Brooks Day & Son, Imp.

LIMNÆA.

PLATE V.

Species 28. (Fig. *a*, *b*, Mus. Brit.)

LIMNÆA SANDWICHENSIS. *Lim. testâ parvâ, pyramidatâ, ferrugineâ, aperturâ anticè subexpansâ; anfractu penultimo majusculo, apicè obtusiùsculo, labio interno valido, suprà medium uniplicato.*

THE SANDWICH ISLAND LIMNÆA. Shell small, pyramidal, ferrugineous; aperture a little expanded anteriorly; inner lip strong, single-plaited above the middle.

PHILLIPS. ——?

Hab. Sandwich Islands.

Species 29. (Mus. Brit.)

LIMNÆA ELODES. *Lim. testâ attenuatim oblongâ, fusco-corneâ; spirâ elongatâ, anfractibus quinque, penultimo elongato; aperturâ breviùsculâ, margine subincrassato, intùs fasciâ castaneâ pictâ, labio interno ad medium uniplicato.*

THE OILY LIMNÆA. Shell attenuately-oblong, brown-horny; spire elongated, whorls five, the last elongated; aperture rather short, with margin a little thickened, painted within with a chestnut band; inner lip single-plaited in the middle.

SAY. Haldeman's Monog., pl. 6, f. 15.

Hab. New York.

Species 30. (Mus. Brit.)

LIMNÆA DIAPHANA. *Lim. testâ attenuatâ, oblongâ, tenui, fusco-corneâ; spirâ pyramidatâ, anfractibus fuscis, rotundatis, subdisjunctis; aperturâ brevi, columellâ vix tortâ.*

THE DIAPHANOUS LIMNÆA. Shell attenuated, oblong, thin, brown-horn; spire pyramidal, with brown, rounded, somewhat disjointed whorls; aperture short, columella scarcely twisted.

KING. Zool. Journ., vol. v. p. 344.

Hab. Straits of Magellan. *Captain King.*

Species 31. (Mus. Brit.)

LIMNÆA AFFINIS. *Lim. testâ ovatâ, corneâ; spirâ brevi, acuminatâ, anfractibus parvis, haud prominentibus, aperturâ pyriformi, columellâ crassiusculâ, arcuatâ.*

THE ALLIED LIMNÆA. Shell ovate, horny; spire short, acuminated, whorls few, not prominent; aperture pyriform, columella rather thick, arched.

BECK. ——?

Hab. Northern Europe?

This little shell is more ovate in form than the generality of the species.

Species 32. (Fig. *a*, *b*, Mus. Brit.)

LIMNÆA REFLEXA. *Lim. testâ attenuatâ, tenui, fuscâ, aureo strigatâ; spirâ productâ, anfractibus paucis, elongatissimis, lateraliter subcomplanatis; aperturâ breviùsculâ.*

THE REFLEX LIMNÆA. Shell attenuated, thin, brown, striped with yellowish; spire produced, with whorls few, very long, rather compressed at the sides, aperture short.

SAY. Haldeman's Monog., pl. 8, f. 26.

Hab. North America.

This species is subject to great variations in form, as may be seen in the two varieties figured.

Species 33. (Mus. Brit.)

LIMNÆA CATASCOPIUM. *Lim. testâ subovatâ, subaurantio-corneâ; spirâ brevi, anfractibus apicalibus parvis, acuminatis, penultimo inflato, ultimo magno; aperturâ ovatâ, columellâ rectiùsculâ.*

THE CRUISER LIMNÆA. Shell subovate, rather orange-tinted-horny; spire short, with apical whorls small, acuminated, penultimate inflated, last large; aperture ovate, columella rather straight.

SAY. Haldeman's Monog., pl. 1, f. 1.

Hab. New York.

Species 34. (Mus. Brit.)

LIMNÆA SUMASII. *Lim. testâ eleganter pyramidatâ, corneâ, gracili; spirâ productâ, anfractibus convexiùsculis, ultimo ovato; aperturâ breviùsculâ, obliquè subovatâ.*

THE SUMASS LIMNÆA. Shell elegantly pyramidal, horny, narrow; spire produced, whorls rather convex, the last ovate; aperture rather short, obliquely subovate.

BAIRD. Proc. Zool. Soc.

Hab. Sumass Prairie, Vancouver's Island.

With the more elegantly curved lines of our British *Limnæa stagnalis*, this species has the narrow form and shortened aperture of our *L. palustris*.

35.

36.

37.

38.

39.a.

39.b

40.

41.a.

41.b

42.

LIMNÆA.

PLATE VI.

Species 35. (Mus. Brit.)

LIMNÆA EMARGINATA. *Lim. testâ pyramidatâ, fuscâ; spirâ elongatâ, attenuatâ, anfractibus lateraliter compressis; ultimo convexiùsculo; aperturâ brevi, intùs subsalmoneâ, labio externo subexpanso, labio interno angusto, columellâ rectiùsculâ, subelongatâ.*

THE EMARGINATED LIMNÆA. Shell pyramidal, brown; spire elongated attenuated, whorls laterally compressed, the last rather convex; aperture short, inside a little salmon-tinted; outer lip subexpanded, inner lip narrow, columella rather straight and long.

SAY. Haldeman's Monog., p. 10, pl. 2.

Hab. Maine, U.S.

Species 36. (Mus. Brit.)

LIMNÆA COLUMELLA. *Lim. testâ tenui, auriculatâ pallidè corneâ; spirâ breviùsculâ, angustâ, acuminatâ, anfractibus paucis, ultimo fusiformi; aperturâ valdè expansâ, subovatâ, columellâ suprà medium uniplicatâ, infrà arcuatâ.*

THE COLUMELLAR LIMNÆA. Shell thin, auriculated, pale horny; spire rather short, narrow, acuminated, whorls few, the last fusiform; aperture much expanded, subovate, columella single-plaited above the middle, arched below.

SAY. Haldeman's Monog., pl. 12.

Hab. Massachusetts.

Resembling our British *Limnæa auricularia*, but much more graceful in form.

Species 37. (Mus. Brit.)

LIMNÆA VINOSA. *Lim. testâ inflatâ, pellucidâ, fusco-vinosâ, strigis sparsis albidis irregularibus subvariegatâ, spirâ brevissimâ, anfractu ultimo ventricoso, lato, prope suturam subangulato; aperturâ latâ, expansâ.*

THE VINOUS LIMNÆA. Shell inflated, pellucid, brown-vinous, slightly variegated with a few whitish irregular stripes; spire very short, last whorl ventricose, broad, slightly angular near the suture; aperture wide, expanded.

ADAMS AND ANGAS. Proc. Zool. Soc.

Hab. Adelaide River. *G. F. Angas.*

Species 38. (Mus. Brit.)

LIMNÆA CUMINGII. *Lim. testâ tenuissimâ, pallidâ, pellucidâ, inflatâ, ovato-subglobosâ; spirâ brevissimâ, anfractu ultimo expanso, subovato.*

CUMING'S LIMNÆA. Shell very thin, pale pellucid, inflated ovately subglobose; spire very short, last whorl expanded, subovate.

ADAMS. Proc. Zool. Soc.

Hab. Australia.

The largest of the group forming the genus named *Amphipeplea* of some authors.

Species 39. (Fig. *a*, *b*, Mus. Brit.)

LIMNÆA MELBOURNENSIS. *Lim. testâ amplissimâ, ovato-subglobosâ, pellucidâ, pallidâ, spirâ brevissimâ; aperturâ latâ, labio interno tenui, subpurpureo, plicâ columellari tenui, arcuatâ.*

THE MELBOURNE LIMNÆA. Shell very ample, ovately subglobose, pellucid, pale, spire very short; aperture broad, inner lip thin, purplish, columellar plait thin, arched.

PFEIFFER. —— ?

Hab. Melbourne, Australia.

Species 40. (Mus. Brit.)

LIMNÆA STRANGII. *Lim. testâ pallidâ, tenui, pellucidâ, ovato-subglobosâ; spirâ brevissimâ, anfractibus apicalibus minutis, penultimo lateraliter inflato, ultimo magno, ventricoso, obliquè declivi.*

STRANGE'S LIMNÆA. Shell pale, thin, pellucid, ovately subglobose; spire very short, apical whorls minute; penultimate laterally inflated, the last large, ventricose, obliquely sloped.

ADAMS AND ANGAS. Proc. Zool. Soc.

Hab. Moreton Bay.

The penultimate whorl is swelled in one direction, and the last whorl in the other, which with the oblique slope of the latter, produces a somewhat distorted appearance.

Species 41. (Fig. *a*, *b*.)

LIMNÆA PHILLIPSI. *Lim. testâ tenui, ovato-subpyramidatâ, fusco-rubescenti; spirâ pyramidatâ, breviusculâ, anfractu ultimo magno, anticè subexpanso; columellâ subtortuosâ.*

PHILLIPS' LIMNÆA. Shell thin, ovate, subpyramidal, reddish brown; spire pyramidal, rather short, last whorl large; anteriorly slightly expanded, columella a little tortuous.

ADAMS AND ANGAS. Stewart's Expedition.

Hab. Arnheim Land, North Australia.

Species 42. (Mus. Brit.)

LIMNÆA DECOLLATA. *Lim. testâ parvâ, solidiusculâ, fuscâ, ventricosâ; spirâ brevi, anfractu ultimo magno, brevi, anticè valdè inflato, medio subangulato; aperturâ subovatâ, intùs castaneo, concentricè unifasciato.*

THE DECOLLATED LIMNÆA. Shell small, rather solid, brown, ventricose; spire short, last whorl large, short, anteriorly much inflated, slightly angular in the middle; aperture subovate, with a single concentric band of chestnut within.

MIGHELS. Haldeman's Monograph, pl. 10.

Hab. Maine, United States.

a *b*

43

44ª

44ᵇ

45ª

46ª

46ᵇ

45ᵃ

47

35ᵇ

35ᶜ

Sowerby del et lith

Vincent Brooks Day & Son, Imp.

LIMNÆA.

PLATE VII.

Fig. 35, *b*, *c*.

These two shells, together with the white variety copied at Plate XV., may now be taken to represent the true species, LIM. EMARGINATA, of *Say*, to the exclusion of the pyramidal species wrongly figured under their name in Pl. VI. f. 35. This is LIMNÆA PYRAMIDATA, Plate IX. Sp. 58.

Fig. 43.

This shell proves to be only a lightly-coloured variety of LIMNÆA DIAPHANA, *King*. Species 30.

For Species 43,
See Plate X., LIM. MACROSTOMA.

Species 44. (Mus. Cuming.)

LIMNÆA PROXIMA. *Lim. testâ anguste, pyramidatâ, acuminatâ, corneâ, substriatâ, spirâ attenuatâ, anfractibus septem, ad latera rectis, aperturâ angustâ, brevi, castaneo propè marginem unifasciato, columellâ latiusculâ.*

THE APPROXIMATE LIMNÆA. Shell narrow, pyramidal, acuminated, horny, slightly striated, spire attenuated, whorls seven, straight at the sides, aperture narrow, short, with a chestnut band near the edge; columella rather broad.

LEA. ——? MS. in Brit. Mus.

Hab. San Antonio.

Differing from *Limnæa reflexa* (Say), in the straightness of the sides of the whorls.

Species 45. (Fig. *a*, *b*, Mus. Brit.)

LIMNÆA CANADENSIS. *Lim. testâ pyramidatâ, anticè inflatâ, tenuiusculâ, politâ, corneâ; spirâ attenuatâ, anfractibus quaternis, subrotundis; ultimo inflato, anticè subacuminato, post columellam subexcavato; aperturâ auriformi, labio interno lato, columellâ crassâ, validè plicatâ; labio externo expanso, reflexo, intùs incrassato.*

THE CANADIAN LIMNÆA. Shell pyramidal, anteriorly inflated, rather thin, polished, horny; spire attenuated, whorls four, rather rounded, the last inflated; anteriorly slightly acuminated, a little excavated behind the columella; aperture auriform, inner lip broad, columella thick, strongly plicated; outer lip expanded, reflected, thickened within.

SOWERBY.

Hab. Canada.

Finding this shell in the British Museum without a name, and thinking it sufficiently distinct from *L. stagnalis*, the writer has given it a local name.

Species 46. (Mus. Brit.)

LIMNÆA NATALENSIS. *Lim. testâ ovato-oblongâ, substrigatâ, ferrugineo-fuscâ, inflatâ; spirâ brevi, anfractibus tribus, ultimo ovato; aperturâ elongatâ, pallidè roseo-fulvâ; columellâ validè plicatâ, tortuâ, labio externo tenui.*

THE NATAL LIMNÆA. Shell ovate-oblong, rather trigonal, rusty-brown, inflated; spire short, whorls three, the last ovate; aperture elongated, pale rose-fawn; columella with a strong plait, tortuous, outer lip thin.

KRAUSS. Sudafriken Mollusken.

Hab. Cape Natal, South Africa.

In form and appearance resembling *Limnæa pinguis*, but different in texture.

Species 47. (Fig. *c*, Mus. Brit.)

LIMNÆA ANGULATA. *Lim. testâ solidâ, subroseo-fulvâ, subquadratâ, spirâ brevi, anfractibus latis, angulatis, ultimo magno; ad latera recto, post columellam excavato; aperturâ subtrigonâ, anticè subacuminatâ; columellâ crassâ, rectâ, labio externo castaneo, intùs unifasciato.*

THE ANGULAR LIMNÆA. Shell solid, pinky-brown, rather square, spire short, whorls broad, angular, the last large; straight at the sides, excavated behind the columella; aperture subtrigonal, anteriorly a little acuminated; columella thick, straight, outer lip with a single chestnut band within.

SOWERBY.

Hab. North America.

a *b*

48

49

50

51ª

52ª

52ᵇ

51ᵇ

53

54

a *b*

55

Sowerby del et lith

Vincent Brooks Day & Son, Imp.

LIMNÆA.

PLATE VIII.

Species 48. (Mus. Brit.)

LIMNÆA CUBENSIS. *Lim. testâ parvâ, acuminatim ovatâ, tenui, corneâ; spirâ longitudine mediocri, subpyramidatâ, anfractibus parvis, rotundatis; aperturâ longitudine mediocri, columellâ rectâ, labio externo tenui.*

THE CUBAN LIMNÆA. Shell small, acuminately ovate, thin, horny; spire of middle length, subpyramidal, whorls few, rounded; aperture of middle length, columella straight, outer lip thin.

PFEIFFER —— ?

Hab. Isl. of Cuba.

Species 49. (Mus. Cuming in Brit.)

LIMNÆA NAVICULA. *Lim. testâ ovatâ, tenui, succineâ; spirâ brevi, anfractibus duobus parvis, ultimo magno, inflato; aperturâ semiovatâ, magnâ, columellâ tenui, tortuâ, labio externo tenui æqualiter arcuatâ.*

THE BOAT LIMNÆA. Shell ovate, thin, amber-coloured; spire short, whorls two, small, the last large, inflated; aperture semiovate, large, columella thin, tortuous, outer lip thin, equally arched.

VALENCIENNES. Humboldt et Bonpland, vol. ii. p. 251.

Limnæa novarium. Trist., MS. Mus. Cum.

Hab. New York.

Species 50. (Mus. Cuming in Brit.)

LIMNÆA JAVANICA. *Lim. testâ ovato-acuminatâ, pallidè vinosâ, politâ; spirâ breviusculâ. attenuatâ, acuminatâ, ultimâ subconicâ; aperturâ angustâ, labio interno tenui, columellâ brevi, tortuâ.*

THE JAVA LIMNÆA. Shell ovately acuminated, pale vinous, polished; spire rather short, attenuated, acuminated, the last rather conical; aperture narrow, inner lip thin, columella short, tortuous.

MICHAUD —— ? MS. in Cum. Col.

Hab. —— ?

This shell seems so distinct from other forms that it is here published, although the search for authority has been unsuccessful.

Species 51. (Mus. Jeffreys.)

LIMNÆA BURNETTI. *Lim. testâ globosâ, solidâ, epidermide stramineâ indutâ; spirâ brevissimâ, depressâ, ferè celatâ, ultimo anfractu maximo, inflato, post columellam subexcavato; aperturâ obliquâ, maximâ, anticè obliquè expansâ, columellâ rectiùsculâ, subarcuatâ.*

BURNETT'S LIMNÆA. Shell globose, solid, covered with a straw-coloured epidermis; spire very short, depressed, almost hidden, the last whorl very large, inflated, a little excavated behind the columella; aperture oblique, very large, anteriorly oblique, expanded, columella rather straight, a little arched.

ALDER —— ?

Hab. Great Britain.

Species 52. (Mus. Brit.)

LIMNÆA CHALYBÆA. *Lim. testâ parvâ, tenui, subpyramidatâ, subcœruleâ; spirâ pyramidali, acuminatâ, anfractibus tribus, subinflatis, ultimo magno; aperturâ trigonâ, anticè subexpansâ, columellâ crassiusculâ, subarcuatâ, labio externo posticè propè suturam tumido.*

THE CHALYBEATE LIMNÆA. Shell small, thin, subpyramidal, bluish; spire pyramidal, acuminated, whorls three, subinflated, the last large; aperture trigonal, anteriorly a little expanded, columella rather thick, a little arched, outer lip posteriorly near the suture tumid.

GOULD. Invertebrata of Massachusetts, p. 216, f. 145.

Hab. Massachusetts, United States.

December, 1872.

Species 53. (Mus. Brit.)

LIMNÆA CAPERATA. *Lim. testâ subpyramidatâ, opacâ, fusco-corneâ, leviter rugatâ; spirâ elevatâ, acuminatâ, anfractibus quaternis, subrotundis; aperturâ pallidè roseâ, brevi, columellâ leviter arcuatâ.*

THE WRINKLED LIMNÆA. Shell subpyramidal, opaque, brown-horn coloured, slightly wrinkled; spire elevated, acuminated, whorls four, rather rounded; aperture pale rosy, short, columella slightly arched.

SAY. Haldeman's Monograph, pl. 1, f. 1.

Limnæa apicina. Say.

Hab. Ohio.

Species 54. (Mus. Brit.)

LIMNÆA RIBERIENSIS. *Lim. testâ breviter ovatâ, pellucidâ, succineâ; spirâ brevissimâ, anfractibus duobus, parvis, ultimo anfractu magno, obliquè ovato; aperturâ magnâ, ovatâ, columellâ vix plicatâ.*

THE RIBERIAN LIMNÆA. Shell shortly ovate, pellucid, amber-coloured; spire very short, whorls two, small, last whorl large, obliquely ovate; aperture large, ovate, columella very slightly plaited.

REIBISCH. —— ? MS. in Mus. Brit.

Hab. San Antonio.

Species 55. (Mus. Brit.)

LIMNÆA SUCCINEÆFORMIS. *Lim. testâ tenuissimâ, angustâ, pyramidatâ, pallidè succineâ; spirâ productâ, anfractibus duobus, ultimo anfractu elongato, suprà aperturam elevato; aperturâ pyriformi, anticè subtruncatâ, columellâ uniplicatâ, tenui.*

THE SUCCINEA-SHAPED LIMNÆA. Shell very thin, narrow, pyramidal, pale amber; spire produced, whorls two, last whorl long, raised above the aperture; aperture pyriform, anteriorly rather truncated, columella single-plaited, thin.

SHUTTLEWORTH —— ?

Hab. Switzerland.

a *b*

56

57ª

57ᵇ

18ᵇ

59ª

59ᵇ

59ᶜ

60

29ᵇ

a *b*

61

LIMNÆA.

PLATE IX.

Fig. 18, *b*.

A variety of *Limnæa pinguis*, which has been named *L. strigata* on account of the streaks on the surface. This arises in some specimens from partial disintegration.

Fig. 29, *b*.

A variety of *Limnæa elodes*, copied from the original figure in Say's American Conchology.

Species 56. (Figs. *a*, *b*.)

LIMNÆA VIATOR. *Lim. testâ parvâ, corneo-subviridi, lævigatâ, semipellucidâ, rectâ, subovatâ; spirâ breviusculâ, anfractibus propè suturam angulatis, lateribus rectis; ultimo anfractu ovato-subangulato, anticè subtruncato, post columellam subexcavato; columellâ vix plicatâ, rectiusculâ.*

THE TRAVELLER LIMNÆA. Shell small, greenish, horny, smooth, semipellucid, straight, subovate; spire rather short, whorls angular near the suture, with straight sides; last whorl ovately subangular, anteriorly subtruncate, a little excavated behind the columella; columella hardly plicated, rather straight.

D'ORBIGNY. Voyage dans l'Amérique Méridionale.

Limnæa umbilicata. Adams?

Hab. Patagonia.

Very hollow, almost umbilicated behind the columella.

Species 57. (Fig. *a*, Mus. Brit.)

(Fig. *b*, *L. succinea*, var. Pl. IV.)

LIMNÆA HIANS. *Lim. testâ tenui, semipellucidâ, politâ, ovato-oblongâ, subfusiformi; pallidissimè corneâ; spirâ acuminatâ, elevatâ, anfractibus tribus, angustis; anfractu ultimo ovato; aperturâ auriformi, plicâ columellari tortuâ, labio externo plus minusve expanso.*

THE GAPING LIMNÆA. Shell thin, semipellucid, polished, ovate-oblong, subfusiform, pale horny; spire acuminated, elevated, whorls three, narrow; last whorl ovate; aperture auriform, columellar fold tortuous, outer lip more or less expanded.

SOWERBY.

Hab. Malabar.

Species 58. (Mus. Brit.)

LIMNÆA PYRAMIDATA, Sowerby. Wrongly figured and described as *L. emarginata* of Say, pl. vi. f. 35.

Species 59. (Figs. *a*, *b*, *c*.)

LIMNÆA OVALIS. *Lim. testâ breviter ovatâ, inflatâ, rectiùsculâ, politissimâ, fusco-corneâ vel vinosâ, nonnunquam strigatâ, aperturâ pallidè corneâ vel castaneâ; spirâ brevi, conicâ, acuminatâ; anfractu ultimo subcylindrico, post columellam excavato; aperturâ magnâ, anticè subtruncatâ, columellâ validè uniplicatâ, brevi, leviter arcuatâ.*

THE OVAL LIMNÆA. Shell shortly ovate, inflated, rather straight, very polished, horny-brown or vinous, sometimes striped within, aperture pale horn or chestnut; spire short, conical, acuminated; last whorl subcylindrical, excavated behind the columella; aperture large, rather truncated in front, columella strongly plicated, short, slightly arched.

SOWERBY. Genera of Shells.

Limnæa Bulla, Benson.

Limnæa variabilis, Benson.

Limnæa sulcatula, Tröschel.

Limnæa Lessoni, Deshayes.

Limnæa cerasum, Tröschel.

Hab. India.

Species 60. (Mus. Brit.)

LIMNÆA SCALARIS. *Lim. testâ eleganter fusiformi, fusco-rubescenti, obliquâ, lævigatâ; spirâ elevatâ, attenuatâ, anfractibus tribus, obliquis, distinctis, rotundis, apice acuminato; ultimo anfractu inflato, obliquè ovato; aperturâ magnâ, anticè productâ, latâ, columellâ rectiùsculâ, plicâ elevatâ, validâ; labio externo expanso.*

THE LADDER LIMNÆA. Shell elegantly fusiform, reddish brown, oblique, smooth; spire elevated, attenuated, whorls three, oblique, distinct, rounded, apex acuminated; last whorl inflated obliquely ovate, aperture large, anteriorly produced, broad, columella rather straight, plait elevated, strong; outer lip expanded.

BROWN? MS. in Brit. Mus.

Hab. Carlsrusche.

The body-whorl is small in proportion to the somewhat expanded mouth, and the upper whorls are rounded and distinct.

Species 61. (Mus. Cum. in Brit.)

LIMNÆA ELLIPTICA. *Lim. testâ parvâ, ovatâ, obscurè succineâ, semipellucidâ, lævigatâ, obliquâ; spirâ brevi, anfractibus tribus, ultimo suprà aperturam elevato, tumido, aperturâ obliquè ovatâ, columellâ tenui, arcuatâ, plicâ angustâ.*

THE ELLIPTIC LIMNÆA. Shell small, ovate, dull amber-coloured, semi-pellucid, smooth, oblique; spire short, whorls three, the last elevated above the aperture; aperture obliquely ovate, columella thin, arched, plait narrow.

LEA. Ann. Acad. Nat. Sci.?

Hab. Madison Lake, Michigan.

A pretty little obliquely ovate amber-coloured species.

62

36 b

63

64 a

65

66

64 b

67 a

67 b

67 c

Sowerby del et lith

Vincent Brooks Day & Son. Imp.

LIMNÆA.

PLATE X.

(Fig. 36, *b*.)

LIMNÆA COLUMELLA, *Say*. Syn. *L. coarctata*, Lea. Species 36. (Pl. VI.)

Species 43.

LIMNÆA MACROSTOMA, Lea. *Hab.* United States. Figured erroneously as *Limnæa columella*, pl. vi. fig. 36.

Species 62. (Mus. Brit.)

LIMNÆA INTERSTRIATA. *Lim. testâ pyrâmidatâ, acuminatâ, solidâ, flavidè castaneâ, distanter, leviter, longitudinaliter liratâ, inter liras longitudinaliter tenuiter striatâ; spirâ elevatâ, anfractibus quaternis, attenuatis, convexiùsculis, aperturâ subtrigonâ, subaurantiâ; columellâ albâ, plicâ columellari crassâ, latâ.*

THE INTERSTRIATED LIMNÆA. Shell pyramidal, acuminated, solid, yellowish chestnut; distantly slightly longitudinally ridged, finely striated, longitudinally striated; spire elevated, whorls four, attenuated, rather convex; aperture subtrigonal, slightly orange; columella white, columella fold thick, broad.

SOWERBY.

Hab. California.

This species appears very distinct from any hitherto known.

Species 63. (Mus. Cum. in Brit.)

LIMNÆA SIAMENSIS. *Lim. testâ ovatâ, obesâ, lævigatâ, tenuiter rubro-lineatâ; spirâ breviusculâ, conicâ, acuminatâ, anfractibus tribus, parvis, paulo convexis; aperturâ pyriformi, anticè rotundâ, plicâ columellari validâ, ad medium elevatâ, arcuatâ.*

THE SIAM LIMNÆA. Shell ovate, obese, smooth, finely red-lined; spire rather short, conical, acuminated; whorls three, small, a little convex; aperture pyriform, rounded anteriorly, columellar fold strong, raised to the middle, arched.

SOWERBY.

Hab. Siam.

Resembling Limnæa pinguis, but marked with reddish lines.

Species 64. (Fig. *a*, *b*, Mus. Benson.)

LIMNÆA AMYGDALUS. *Lim. testâ oblongo-ovatâ, tenui, magnâ, pallidè corneâ, in aperturâ pallidissimè aurantiâ; spirâ brevi, angustâ, acuminatâ; anfractu ultimo naviculari; aperturâ amplâ, elongatâ; plicâ columellari elevatâ, retrorsim tortuosâ, labio externo suprà medium sinuosim producto.*

THE ALMOND LIMNÆA. Shell oblong-ovate, thin, pale-horn-coloured, very pale orange in the mouth; spire short, narrow, acuminated; last whorl boat-shaped; aperture wide, long; columellar fold raised, twisted backward, outer lip sinuously produced above the middle.

TRÖSCHEL. Weigman's Archiv., 1837, vol. iii. p. 168.

Hab. Bengal, the Ganges, &c.

The last whorl not so much sloped as in Limnæa rufescens.

Species 65. (Mus. Brit.)

LIMNÆA CHLAMYS. *Lim. testâ magnâ, ventricosâ, subfusiformi, pallidè fulvâ, subrugosâ; spirâ breviùsculâ, angustâ, acuminatâ, anfractibus paulò convexis; anfractu ultimo inflato; aperturâ magnâ, auriformi; labio interno ventricoso, plicâ columellari tortuosâ, ad medium elevatâ, labio externo equaliter arcuato.*

THE CLOAK LIMNÆA. Shell large, ventricose, subfusiform, pale fawn, rather rugose; spire rather short,

narrow, acuminated; whorls a little convex, last whorl inflated; aperture large, auriform; inner lip ventricose, columellar fold tortuous, raised to the middle, outer lip equally arched.

Benson. Journ. Asi. Soc. Bengal, 1836, vol. v. p. 744.

Hab. Moradabad, Benares, &c.

Much stouter and more ventricose than *Limnæa rufescens*, with the last whorl broader in proportion to spire.

Species 66. (Mus. Benson.)

Limnæa acuminata. *Lim. testâ oblongâ, ventricosâ, purpureo-rubescenti, tenui, semipellucidâ, lævigatâ, spirâ brevi, angustâ, anfractibus attenuatis; anfractu ultimo supernè subangulato, infrà medium inflato; aperturâ magnâ, anticè rotundâ, labio columellari tortuo.*

The acuminated Limnæa. Shell oblong, ventricose, reddish purple, thin, semipellucid, smooth, spire short, narrow, whorls attenuated; last whorl slightly angular above, inflated below the middle; aperture large, rounded anteriorly, columellar lip tortuous.

Lamarck. Anim. sans Vert., vol. vi.

Hab. Near Hingola.

Species 67. (Mus. Brit.)

Limnæa Californica. *Lim. testâ elongatâ, pyramidatâ, tenui, semipellucidâ, pallidè corneâ; spirâ elevatâ, anfractibus quinque oblongis, moderatè convexis; aperturâ auriformi, brevi; labio interno ad medium uniplicato; plicâ columellari anticè retrorsim tortuosâ.*

The Californian Limnæa. Shell elongated, pyramidal, thin, semipellucid, pale horn-coloured; spire elevated, whorls five, oblong, moderately convex; aperture ear-shaped, short; inner lip single-plaited in the middle; columellar fold twisted backward.

Sowerby.

Hab. California.

The form and calibre of this shell seem to differ considerably from any known species.

Species 67*. (Mus. Brit.)

Limnæa, nucleus. *Lim. testâ, solidiùsculâ, ventricosâ, rectâ, fumoso-corneâ; spirâ productâ, anfractibus quatuor, subangulatis; ultimo anfractu subcylindrico, lato; aperturâ spiram longitudine æquanti, propè marginem castaneo fasciatâ; labio interno crassiùsculo, subroseo; plicâ columellari validâ, tortuâ.*

The nucleus Limnæa. Shell rather solid, ventricose, straight, smoky-horn-coloured; spire produced, whorls four, rather angular; last whorl partly cylindrical, broad; aperture equalling the spire in length, chestnut banded near the margin; inner lip rather thick, pinkish; columellar lip strong, tortuous.

Tröschel. ——? MS. in Mus. Brit.

Hab. River Ganges.

68

69 a

69 b

70 a

71

72

70 b

73

74

75

Sowerby del et lith.

Vincent Brooks Day & Son Imp

LIMNÆA.

PLATE XI.

Species 68. (Mus. Brit.)

LIMNÆA ELONGATA. *Lim. testâ attenuatâ, corneâ, spirâ elongatâ, anfractibus octo circà, subrotundis, subturritis, ultimo ovato, breviùsculo, aperturâ brevissimâ, columellâ validè plicatâ.*

THE ELONGATED LIMNÆA. Shell attenuated, horn-coloured, spire elongated, whorls about eight, rather rounded, slightly turreted, the last ovate, rather short, aperture very short, columella strongly plicated.

DRAPARNAUD. Mollusques, pl. 3, f. 3-5, non *Say.*

Limnæa leucostoma, Lamarck.

Limnæa octanfracta ——?

Limnæa glaber, var., Jeffreys, &c.

Hab. Europe.

The numerous whorls and long turreted form of this species may be considered sufficient to justify its distinction from *L. glaber.*

Species 69. (Mus. Brit.)

LIMNÆA JAPONICA. *Lim. testâ ovato-ventricosâ, tenui, subrugosâ, fulvâ, spirâ brevissimâ, anfractibus paucis rotundis, apice obtuso, ultimo anfractu inflato; aperturâ auriformi, expansâ, pallidissimè aurantiâ, columellâ medio validè plicatâ, plicâ tortuosâ, reflexâ; labio externo expanso, reflexo.*

THE JAPANESE LIMNÆA. Shell ovate-ventricose, thin, a little rough, fulvous, spire very short, whorls few, rounded, apex obtuse, last whorls inflated; aperture ear-shaped, expanded, very pale orange; columella strongly plicated in the middle, fold tortuous, reflected; outer lip expanded, reflected.

SOWERBY.

Hab. Japan.

More ovate and with the body whorl proportionally larger than the British *Limnæa auricularia.* The surface is also a little rougher and the texture less horny.

Species 70. (Mus. Hanley.)

LIMNÆA NUTTALIANA. *Lim. testâ acuminatâ, pyramidatâ, corneâ, tenuiter striatâ; hinc illic castaneo longitudinaliter strigatâ; spirâ productâ, attenuatâ, anfractibus quinque, declivis, supernè attenuatis; aperturâ brevi, intùs flavidâ, castaneo propè marginem intùsque strigato; labio externo posticè subangulato.*

NUTTALL'S LIMNÆA. Shell acuminated, pyramidal, horny, finely striated; here and there longitudinally striped; spire produced, attenuated, whorls five, sloped, attenuated above; aperture short, yellowish within, striped near the margin and within with chestnut; outer lip posteriorly slightly angular.

LEA. Transactions of the Philosophical Society, vol. ix. p. 9.

Hab. Oregon.

Species 71. (Mus. Hanley.)

LIMNÆA BLAUNERI. *Lim. testâ subovatâ, fusco-corneâ, semipellucidâ, lævigatâ, subpyramidatâ; spirâ obtusâ, breviùsculâ, anfractu penultimo oblongo, supernè subangulato, ultimo posticè subattenuato; aperturâ subquadratâ, labio columellari retrorsim obliquo, plicâ crassâ, latâ.*

BLAUNER'S LIMNÆA. Shell subovate, horn-brown, semipellucid, smooth, subpyramidal; spire obtuse, rather short, penultimate whorl oblong, slightly angular above, the last posteriorly subattenuated; aperture rather square, columellar lip sloped backwards obliquely, fold thick, broad.

SHUTTLEWORTH. Küster's Martini et Chemnitz Conch. Cab.

Hab. Switzerland.

Species 72. (Mus. Hanley.)

LIMNÆA EXILIS. *Lim. subfusiformi, angustâ, elongatâ, fumoso-corneâ, substriatâ; spirâ elongatâ, acuminatâ; anfractibus quatuor attenuatis; anfractu ultimo angustè ovato, suprà aperturam elevato; aperturâ brevi, angustâ, labio interno ad medium uniplicato; labio externo propè marginem castaneo fasciato.*

THE NARROW LIMNÆA. Shell rather fusiform, narrow, elongated, smoky horn-coloured, slightly striated; spire elongated, acuminated; whorls four, attenuated; last whorl narrowly ovate, raised above the aperture; aperture short, narrow, inner lip with a single plait in the middle; outer lip banded with chestnut near the margin.

LEA. Transactions of the Philosophical Society.

Limnæa umbrosa, var., Haldeman.

Hab. Ohio.

This appears much too narrow and straight-sided for *L. umbrosa.*

Species 73. (Mus. Hanley.)

LIMNÆA VENTRICULARIS. *Lim. testâ eleganter fusiformi, semipellucidâ, corneo-rubescenti; spirâ productâ, attenuatâ, anfractibus quatuor, attenuatis, convexiùsculis, ultimo angustiùsculo; aperturâ elongatâ, subauriformi; columellâ tortuosâ, recurvâ, labio externo posticè tumido, rotundo.*

THE VENTRICOSE LIMNÆA. Shell elegantly fusiform, semi-pellucid, reddish-horn coloured; spire produced, attenuated, whorls four, attenuated, rather convex, the last rather narrow; aperture elongated, subauriform; columella tortuous, recurved; outer lip tumid posteriorly.

KÜSTER. Conchylien Cabinet, Martyn and Chemnitz.

Hab. Isl. of Formosa.

A very distinct and elegant form.

Species. 74 (Mus. Hanley.)

LIMNÆA HOOKERI. *Lim. testâ subovatâ, fuscâ, rubescenti, subopacâ; spirâ longitudine mediocri, anfractibus angulatis, scalatis; anfractu ultimo subcylindraceo, brevi, post columellam excavato; aperturâ oblongâ, anticè subtruncatâ; labio interno reflexo, columellâ validâ, reflexâ; labio externo posticè rotundatim angulato, medio rectiùsculo.*

HOOKER'S LIMNÆA. Shell subovate, brown, reddish, rather opaque; spire of middle length, whorls angular, in steps; last whorl rather cylindrical, short, excavated behind the columella; aperture oblong, anteriorly slightly truncated; inner lip reflected, columella strong, reflected; outer lip posteriorly roundly angular, rather straight in the middle.

REEVE. Proc. Zool. Soc., 1850, p. 49.

Hab. Thibetian Himalaya.

Species 75. (Mus. Hanley.)

LIMNÆA CANALIS. *Lim. testâ semi-globosâ, patulâ, fuscâ, pallidè rubescenti, spiraliter et subdivaricatim striatâ; spirâ brevissimâ, anfractibus tribus, parvis; anfractu ultimo magno, lato; aperturâ maximâ, labio externo posticè ad suturam elevato, latè expanso.*

THE CANAL LIMNÆA. Shell semiglobose, patulous, brown, pale reddish, spirally and rather divergently striated; spire very short, whorls three, small; last whorl large, broad; aperture very large, outer lip raised posteriorly at the suture, broadly expanded.

DUPUY. Mollusques de la France.

Hab. France.

This species differs from our *Limnæa auricularia* in the elevation of the expanded outer lip at the suture.

76 a

a *b*

77

a *b*

78

79

a *b*

80

a *b*

81

82

83

84

76 b

Sowerby del et lith

Vincent Brooks Day & Son, Imp.

LIMNÆA.

PLATE XII.

Species 76. (Mus. —— ? Copied.)

LIMNÆA DELICATA. *Lim. testâ subfusiformi, subpellucidâ, corneâ, pallidè roseo-lacteâ, spiraliter subfasciatâ; spirâ elevatâ, subscalatâ; anfractibus quatuor, convexis, subangulatis, anfractu ultimo breviùsculo, post columellam excavato; aperturâ subquadratâ, posticè subangulatâ, columellâ tortuâ, subrecurvâ.*

THE DELICATE LIMNÆA. Shell subfusiform, subpellucid, horny, pale rose-milky, spirally slightly banded, spire elevated, slightly ladder-like; whorls four, convex, rather angular, last whorl rather short, excavated behind the columella; aperture subquadrate, posteriorly slightly angular; columella tortuous, somewhat curved backwards.

SAY. Acad. Nat. Sci.

Limnæa filograna, Menke ?

Hab. N. America.

There is a delicacy about this shell, and a tendency to cross-banding in the colouring, that impresses the eye with an appearance of distinctness from the nearest species.

Species 77. (Fig. *a*, *b*, Mus. Brit.)

LIMNÆA BULIMOIDES. *Lim. testâ parvâ, ovato-subpyramidatâ, pallidè corneâ, semipellucidâ; spirâ aperturam longitudine æquanti, anfractibus tribus, penultimo subinflato; aperturâ pyriformi; columellâ tenui, rectiùsculâ.*

THE BULIMUS-LIKE LIMNÆA. Shell small, ovately subpyramidal, pale horn, semipellucid; spire equalling the aperture in length, whorls three, the last but one rather inflated; aperture pyriform; columella thin, rather straight.

LEA. Küster's Conchylien Cabinet.

Hab. N. America.

Species 78. (Fig. *a*, *b*, Mus. Brit.)

LIMNÆA HUMILIS. *Lim. testâ parvâ, pyriformi, pallidissimè corneâ, posticè fulvescenti; spirâ aperturam longitudine æquanti, acuminatâ, anfractibus tribus rotundis; anfractu ultimo post columellam umbilicato; aperturâ parvâ, ovatâ; columellâ rectiùsculâ, labio externo æqualiter arcuato.*

THE LOWLY LIMNÆA. Shell small, pyriform, very pale horn, posteriorly brownish; spire equalling the aperture in length, acuminated, whorls three, rounded; last whorl umbilicated behind the columella; aperture small, ovate; columella rather straight, outer lip equally arched.

SAY. Haldeman's Monographs, pl. 4.

Limnæa parva, Lea.

Hab. New York.

The body whorl is shorter and more ventricose in proportion to the spire than in *Limnæa umbilicata*, and the whorl is more acuminated.

Species 79. (Mus. —— ? Copied.)

LIMNÆA EXPANSA. *Lim. testâ subfusiformi, pallidè corneâ, subinflatâ; spirâ elevatâ, anfractibus quinque, oblongo-inflatis, penultimo ventricoso; anfractu ultimo ovato, suprà aperturam elevato, tumidiùsculo; aperturâ auriformi, latâ, infrà anfractum ultimum anticè productâ, columellâ tortuâ, recurvâ; labio externo tenui, valdè expanso; plicâ columellari crassâ, validâ.*

THE EXPANDED LIMNÆA. Shell subfusiform, pale horn, subinflated; spire elevated, whorls five, oblong-inflated, the penultimate ventricose; last whorl ovate, raised above the aperture, rather tumid; aperture auriform, wide, produced in front below the last whorl, columella tortuous, recurved; outer lip thin, much expanded; columellar fold thick, strong.

HALDEMAN. Monograph of Freshwater Shells of North America.

Hab. North America.

The two specimens figured in Haldeman's Monograph differ somewhat in proportions, but agree in the expanded aperture and the backward curve of the anterior part.

Species 80. (Mus. ——? Copied.)

LIMNÆA FERRUGINEA. *Lim. testâ parvâ, utrinque acuminatâ, corneo-ferrugineâ; spira elongatâ, pyramidatâ, acuminatâ, anfractibus tribus, convexiùsculis; anfractu ultimo angustiùsculo; aperturâ parvâ, semiovatâ, anticè acuminatâ; plicâ columellari in medio labii interni positâ, prominenti, tortuâ, subrecurvâ.*

THE FERRUGINOUS LIMNÆA. Shell small, acuminated at both ends, horny-ferruginous; spire elongated, pyramidal, acuminated, whorls three, rather convex, last whorl rather narrow; aperture small, anteriorly acuminated; columellar fold placed in the middle of the inner lip, prominent, tortuous, rather recurved.

HALDEMAN. Monograph of the Freshwater Shells of North America.

Hab. N. America.

A very small shell, somewhat pointed at both ends.

Species 81. (Mus. ——? Copied.)

LIMNÆA PALLIDA. *Lim. testâ pyramidatâ, pallidè fulvâ, tenui; spirâ aperturam longitudine paulò superanti, pyramidatâ, anfractibus tribus, lateribus rectiùsculis; anfractu ultimo anticè rotundatim angulato; aperturâ subtrigonâ, anticè latiùsculâ, plicâ columellari validâ, elevatâ, subtortuosâ.*

THE PALE LIMNÆA. Shell pyramidal, pale fulvous, thin; spire slightly exceeding aperture in length, pyramidal, whorls three, with rather straight sides; last whorl anteriorly roundly angular; aperture somewhat trigonal, anteriorly rather wide, columellar fold strong, elevated, rather tortuous.

ADAMS. Boston Journal of Natural History, vol. iii. p. 324.

Hab. Lake Champlain.

Species 82. (Mus. Brit.)

LIMNÆA PHILADELPHICA. *Lim. testâ subfusiformi, anticè latè expansâ; spirâ productâ, acuminatâ, anfractibus tribus, convexiùsculis; anfractu ultimo breviùsculo, corneo, filis albis tenuibus strigato, aperturâ subroseâ, aliformi, latè expansâ; columellâ crassâ, plicâ columellari elevatâ, latâ, subcomplanatâ.*

THE PHILADELPHIA LIMNÆA. Shell subfusiform, anteriorly widely expanded; spire produced, acuminated, whorls three, rather convex; last whorl rather short, horny, striped with fine white threads; aperture a little pinky, wing-shaped, widely expanded; columella thick, columellar plait raised, broad, rather flat.

LEA. Proceedings of the American Philosophical Society, p. 32.

Limnæa glabrata? Haldeman.

Hab. New York.

Species 83. (Mus. Brit.)

LIMNÆA MODICELLA. *Lim. testâ subfusiformi, acuminatâ, rectiùsculâ, fusco-corneâ, spirâ aperturam longitudine æquanti, anfractibus quatuor, convexis, suturâ distinctâ; anfractu ultimo breviùsculo, rotundato; aperturâ subovatâ, plicâ columellari prominenti, crassâ, brevi, subtortuosâ.*

THE MEAN LIMNÆA. Shell rather fusiform, acuminated, rather straight, horny-brown, spire equalling the aperture in length; whorls four, convex, suture distinct, last whorl rather short, rounded; aperture nearly oval, columellar fold prominent, thick, short, rather tortuous.

SAY. Journ. Acad. Nat. Sci., vol. v. p. 122.

Hab. Maine, United States.

Species 84. (Mus. Brit.)

LIMNÆA GLOBOSA. *Lim. testâ inflatâ, subglobosâ, lævigatâ, semipellucidâ, corneo-rubescenti; spirâ parvâ, anfractibus duobus aut tribus minutis, apice acuminato; ultimo anfractu magno, rotundo; aperturâ auriformi, magnâ, anticè latissimâ, plicâ columellari validâ, subspirali, elevatâ, tortuosâ, recurvâ.*

THE GLOBOSE LIMNÆA. Shell subglobose, inflated, smooth, semipellucid, reddish horny; spire small, whorls two or three, minute, apex acuminated; last whorl large, rounded; aperture auriform, large; very wide anteriorly; columellar plait strong, subspiral, elevated, tortuous, recurved.

SOWERBY.

Hab. Australia.

a *b*

85

86 *a*

86 *b*

87

88 *a*

88 *b*

a

b

89

90

32?

91

Sowerby del et lith

Vincent Brooks Day & Son Imp

LIMNÆA.

PLATE XIII.

Fig. 32, *c*.

LIMNÆA ATTENUATA, *Say*. In Haldeman's Monograph. (Figures 32, *a*, *b*, are erroneously named LIMNÆA REFLEXA in our Pl. V., and belong to this species.)

Species 85. (Fig. *a*, *b*, Mus. Hanley.)

LIMNÆA GINGIVATA. *Lim. testâ parvâ, utrinque acuminatâ, subfusiformi, pallidè corneâ; spirâ conicâ, acuminatâ, apice rubro, anfractibus quatuor, lateribus rectiùsculis; anfractu ultimo subcylindraceo; aperturâ angustâ, marginibus albis, columellâ leviter uniplicatâ, rectiùsculâ.*

THE GUM LIMNÆA. Shell small, acuminated at both ends, rather fusiform, pale horn; spire conical, acuminated, apex red, whorls four, with rather straight sides; last whorl somewhat cylindrical; aperture narrow, with white margins, columella with a single slight fold, rather straight.

GOUPIL. Mollusques de la Sarthe.

Limnæa glabra, var., Dupuy.

Hab. France.

Species 86. (Fig. *a*, *b*, Mus. Hanley.)

LIMNÆA GILBILMANICUS. *Lim. testâ subconicâ, solidiùsculâ, rufo-fulvâ, luteo pallidè fasciatâ; spirâ brevi, conicâ, anfractibus tribus, lateribus rectiùsculis; anfractu ultimo magno, subconico, anticè latiùsculo; aperturâ pyriformi, subroseâ, columellâ solidâ, plicâ columellari suprà medium elevatâ, leviter tortuosâ.*

THE GILBILMAN LIMNÆA. Shell rather conical, rather solid, reddish brown, banded with pale yellow; spire short, conical, whorls three, with rather straight sides; last whorl large, rather conical, a little widened in front; aperture pyriform, a little rosy; columella solid, columellar fold raised above the middle, slightly tortuous.

CASTA. In Benoit.

Hab. Sicily.

Species 87. (Mus. Hanley.)

LIMNÆA FLAVA. *Lim. testâ conicâ, acuminatâ, fulvâ; spirâ breviùsculâ, anfractibus quinque gradatis, lateribus rectis, apice acutissimo; anfractu ultimo rectiùsculo, anticè latiori; aperturâ flavidâ, subtrigonâ.*

THE YELLOW LIMNÆA. Shell conical, acuminated, brown; spire rather short, whorls five, step-like, with straight sides, apex very sharp; last whorl rather straight, wider in front; aperture yellowish, subtrigonal.

MORELET. ——?

Hab. ——?

Species 88. (Fig. *a*, *b*, Mus. Hanley.)

LIMNÆA SOLIDA. *Lim. testâ brevi, robustâ, subovatâ, fulvâ; spirâ breviusculâ, anfractibus brevibus subrotundis; ultimo anfractu brevi, ventricoso, post columellam subexcavato; aperturâ subovatâ, margine carneolo, columellâ rectiùsculâ, solidâ.*

THE SOLID LIMNÆA. Shell short, robust, subovate, fulvous; spire rather short, whorls short, rather rounded; last whorl short, ventricose, a little excavated behind the columella; aperture rather ovate, margin pinky, columella rather straight, solid.

HALDEMAN. Monograph of Freshwater Shells of United States.

Hab. N. America.

One of the original figures in Haldeman's plate is of a delicate lilac colour, as shown in our back figure.

Species 89. (Mus. ——? Copied.)

LIMNÆA VIRIDIS. *Lim. testâ subdiaphanâ, subviridi, corneâ, fusiformi; spirâ productâ, attenuatâ, acuminatâ; anfractibus angustis, obliquis; ultimo anfractu breviùsculo, ovato; aperturâ semiovatâ, columellâ crassâ, rectiùsculâ.*

THE GREEN LIMNÆA. Shell partly diaphanous, greenish, horny, fusiform, spire produced, attenuated, acuminated, whorls narrow, oblique; last whorl rather short, ovate; aperture semiovate, rather acuminated in front, columella thick, rather straight.

QUOY. Voyage de l'Astrolabe, vol. ii. p. 204, pl. 58, f. 16-18.

Hab. Isl. of Guam.

I have not been able to identify this with any specimens in the collections.

Species 90. (Mus. Hanley.)

LIMNÆA OUAHENSIS. *Lim. testâ parvâ, obliquè subpyramidatâ, fuscâ, rubescenti, translucidâ; spirâ aperturam longitudine ferè æquanti, anfractibus tribus, penultimo et ultimo oblongis, ultimo ovato, suprà aperturam elevato; aperturâ parvâ, subtrigonâ; plicâ columellari brevi, vix tortâ.*

THE OUAH LIMNÆA. Shell small, obliquely subpyramidal, reddish brown, translucid; spire nearly equal to aperture in length, whorls three, the penultimate and ultimate oblong, the last ovate, raised above the aperture; aperture small, subtrigonal, columellar plait short, scarcely tortuous.

SOULEYET. Voyage de la Bonite.

Hab. Sandwich Islands?

Species 91. (Mus. Hanley.)

LIMNÆA TURRICULA. *Lim. testâ subviridi, oblongo-pyramidatâ, striatâ, rectiùsculâ, spirâ aperturam longitudine superanti, anfractibus quatuor, elevatis, apicalibus castaneis; aperturâ parvâ, semiovatâ, propè marginem castaneo unifasciatâ; plicâ columellari brevi.*

THE LITTLE-TOWER LIMNÆA. Shell greenish, oblong-pyramidal, striated, rather straight spire exceeding aperture in length, whorls four, elevated, the apical ones chestnut; aperture small, semiovate, with a single chestnut band near the margin; columellar fold short.

KÜSTER. In Martini et Chemnitz Conchylien Cabinet.

Hab. ——?

a *b*

92

93

94

95 *a*

96

97

95 *b*

98

99

100

Sowerby del et Lith.

Vincent Brooks Day & Son, Imp

LIMNÆA.

PLATE XIV.

Species 92. (Fig. *a*, *b*, Mus. Brit.)

LIMNÆA PERSICA. *Lim. testâ parvâ, rectiùsculâ, solidâ, corneâ; spirâ productâ, anfractibus tribus, prominentibus, gradatis; ultimo anfractu brevi, anticè truncato, post columellam umbilicato, lateribus rectiùsculis; aperturâ parvâ, angustâ, columellâ rectiusculâ, latè reflexo.*

THE PERSIAN LIMNÆA. Shell small, rather straight, solid, horny, spire produced, whorls three, prominent, in steps; last whorl short, anteriorly truncated, umbilicated behind the columella, sides rather short; aperture small, narrow, columella rather straight, broadly expanded.

PARREYS. ——.

Hab. Schiraz, Persia.

Species 93. (Mus. Hanley.)

LIMNÆA ATTICA. *Lim. testâ ovatâ, ventricosâ, subviridi; pellucidâ; spirâ castaneâ, brevi, anfractibus tribus, parvis; ultimo anfractu inflato, ovato, moderatè obliquo; aperturâ obliquâ, anticè latâ, columellâ prominentè uniplicatâ, plicâ tortuâ.*

THE ATTIC LIMNÆA. Shell ovate, ventricose, greenish, pellucid; spire chestnut, short, whorls three, small; last whorl inflated, ovate, moderately oblique; aperture oblique, wide in front, columella prominently single-plaited, plait tortuous.

KÜSTER. Martini et Chemnitz Conchylien Cabinet.

Hab. Greece.

Species 94. (Mus. Hanley.)

LIMNÆA VITRÆA. *Lim. testâ subfusiformi, semipellucidâ, pallidè corneâ, ventricosâ; spirâ productâ, anfractibus prominentibus, subangulatis; ultimo anfractu breviùsculo, angulato; aperturâ oblongâ, spiram longitudine superanti, anticè latâ; columellâ latâ, crassiùsculâ.*

THE GLASSY LIMNÆA. Shell subfusiform, semipellucid, pale horny, ventricose; spire produced, whorls prominent, rather angular; last whorl rather short, angular; aperture oblong, exceeding the spire in length, broad anteriorly; columella broad, rather thick.

HALDEMAN. Monograph of Freshwater Shells of United States.

Hab. Wisconsin.

Species 95. (Fig. *a*, *b*, Mus. Cuming in Brit.)

LIMNÆA DESHAYESII. *Lim. testâ corneo-subpurpureâ, ventricosissimâ, tenui; spirâ productâ, acuminatâ, anfractibus quinque, attenuatis; ultimo anfractu ventricosissimo, anticè lato, postice propè suturam tumido, et pallidè purpureo, labio interno purpureo-castaneo; aperturâ pyriformi, posticè subangulatâ, anticè latâ, subtruncatâ, columellâ validè arcuatâ.*

DESHAYES'S LIMNÆA. Shell horny-purplish, very ventricose, thin, broad anteriorly, tumid posteriorly near the suture and pale purple; inner lip purple chestnut; aperture pyriform, posteriorly rather angular, broad anteriorly, subtruncated, columella strongly arched.

ADAMS. Proc. Zool. Soc.?

Hab. Australia.

Species 96. (Mus. Hanley.)

LIMNÆA TENER. *Lim. testâ eleganter subfusiformi, pallidè corneâ, translucidâ; spirâ productâ, acuminatâ, anfractibus tribus, apicalibus parvis, convexis; ultimo anfractu inflato, brevi; aperturâ latâ, fuscâ, posticè prominenti anticè latissimâ, plicâ columellari elevatâ, solidâ, rectiùsculâ.*

THE THIN LIMNÆA. Shell elegantly subfusiform, pale horny, translucid; spire produced, acuminated, whorls three, the apical ones small, convex; last

whorl inflated, short; aperture broad, brown, posteriorly prominent, anteriorly very broad, columellar fold elevated, solid, rather straight.

PARREYS. ——?

Hab. Hungary.

Species 97. (Mus. Brit.)

LIMNÆA SOTERIA. *Lim. testâ obliquè subovatâ, pallidè corneâ, angustâ, semipellucidâ; spirâ subpyramidatâ, aperturam longitudine ferè æquanti; anfractu ultimo lateraliter subcompresso; aperturâ subpyriformi, anticè subtruncatâ; plicâ columellari elevatâ, latâ, crassâ.*

THE VOTIVE LIMNÆA. Shell obliquely subovate, pale horny, narrow, semipellucid; spire subpyramidal, almost equalling the aperture in length; last whorl laterally rather compressed; aperture subpyriform, anteriorly subtruncated; columellar fold elevated, broad, thick.

PARREYS. Nilla Cat., 1841, p. 32.

Hab. Bannat.

Species 98. (Mus. Hanley.)

LIMNÆA PINGELII. *Lim. testâ elongatâ, pallidè corneâ, hinc illic castaneo lineatim fasciatâ, spirâ elevatâ, aperturam longitudine superanti; anfractibus quinque convexis; ultimo anfractu ovato; aperturâ breviùsculâ, semiovatâ; plicâ columellari rectiùsculâ.*

PINGEL'S LIMNÆA. Shell elongated, pale horny, here and there linearly banded with chestnut, spire elevated, exceeding the aperture in length; whorls five, convex; last whorl ovate; aperture rather short, semiovate; columellar plait rather short.

BECK. MS.

Hab. Scandinavia.

This shell may possibly be a variety of *L. Vahlii*, Beck.

Species 99. (Mus. Brit.)

LIMNÆA PELLIGER. *Lim. testâ ovato-subconicâ, solidâ, opacâ, pallidè castaneâ; spirâ breviùsculâ, obtusâ, anfractibus paucis; anfractu ultimo suprà aperturam elevato, ad suturam tumido, anticè lato, post columellam excavato; aperturâ aureo-lutescenti, pyriformi, anticè latâ.*

THE COATED LIMNÆA. Shell ovately-subconical, solid, opake, pale chestnut; spire rather short, obtuse, whorls few; last whorl raised above the aperture, tumid at the suture, broad in front, excavated behind the columella; aperture yellowish golden, pyriform, broad in front.

SHUTTLEWORTH. ——? MS.

Hab. Switzerland.

Species 100. (Mus. Brit.)

LIMNÆA BARBADENSIS. *Lim. testâ subpyriformi, obliquâ, corneo-rubescenti, opacâ; spirâ breviùsculâ, anfractibus tribus rotundis, ultimo anfractu ovato, ventricoso, aperturâ obliquè expansâ, propè marginem castaneo fasciatâ, margine albo; plicâ columellari albâ, tortuâ.*

THE BARBADOES LIMNÆA. Shell pyriform, oblique, reddish horny, opake; spire very short, whorls three, round; last whorl ovate, ventricose, aperture obliquely expanded, banded with chestnut near the margin; margin white; columellar fold white, tortuous.

BECK. ——? MS. in Brit. Mus.

Hab. Barbadoes.

101

102

103

104ª

105

18 b

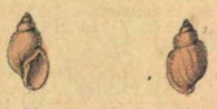
104 b

47 a

106ª

106 b

32 b



107

LIMNÆA.

PLATE XV.

Fig. 18, *c*.

LIMNÆA PINGUIS, *var.* Vide Plates III. and IX.

Fig. 32, *d*, *c*.

LIMNÆA REFLEXA, *Say*. The two previous figures in Plate V. must be referred to LIMNÆA ATTENUATA, *Say*, Plate XIII.

Fig. 35, *d*.

LIMNÆA EMARGINATA, *Say*. Original figure copied. See Plate VII.

Species 101. (Fig. *a*, *b*, Mus. Brit.)

LIMNÆA DALMATICA. *Lim. testâ parvâ, pallidè corneâ, subrotundâ, latâ, spirâ brevissimâ, anfractibus duobus, parvis, anfractu ultimo subgloboso, brevi, aperturâ magnâ, labio columellari rectiùsculo, labio externo expanso.*

THE DALMATIA LIMNÆA. Shell small, pale horny, rather rounded, broad, spire very short, whorls two, small, last whorl rather globose, short, aperture large, columellar lip expanded.

PARREYS. —— ?

Hab. Dalmatiâ.

Species 102. (Fig. *a*, *b*, Mus. Brit.)

LIMNÆA SANDERI. *Lim. testâ conicâ, pallidè fulvâ, lævigatâ, opacâ; spirâ aperturam longitudine æquanti, anfractibus tribus, convexiùsculis; ultimo anfractu inflato, brevi; aperturâ semiovatâ, intùs pallidè aureâ; columellâ vix arcuatâ.*

SANDERS' LIMNÆA. Shell conical, pale fulvous, smooth, opake; spire equalling aperture in length; whorls three, rather convex; last whorl inflated, short; aperture semiovate, pale golden within; columella very little arched.

PARREYS —— ? MS.

Hab. Dalmatia.

Species 103. (Fig. *a*, *b*.)

LIMNÆA BALTHICA. *Lim. testâ parvâ, ovato-subglobosâ, subviridi-corneâ, semipellucidâ; spirâ brevissimâ, anfractibus duobus aut tribus subrotundis; ultimo anfractu breviter ovato; aperturâ semiovatâ, anticè latiùsculâ.*

THE BALTIC LIMNÆA. Shell small, ovately subglobose, greenish horn, semipellucid; spire very short, whorls two or three, rather rounded; last whorl briefly ovate; aperture semiovate, anteriorly rather wide.

NILLSON —— ?

Hab. The Baltic Sea.

Species 104. (Fig. *a*, *b*, Mus. Hanley.)

LIMNÆA LUTEOLA. *Lim. testâ ventricosâ, rectâ, pallidè corneâ, tenui; spirâ conicâ, breviùsculâ, anfractibus paucis, declivis; anfractu ultimo inflato, magno, anticè latiùsculo; columellâ validè uniplicatâ, plicâ albâ, rectiùsculâ.*

THE YELLOWISH LIMNÆA. Shell ventricose, straight, pale horn, thin; spire conical, rather short, whorls few, sloped; last whorl inflated, large, rather broad anteriorly; columella with a strong fold; fold white, rather straight.

LAMARCK. Animaux sans Vertébres, vol. vi. p. 160.

Hab. Bengal.

Species 105. (Mus. Brit.)

LIMNÆA BREVICAUDA. *Lim. testâ obliquè tortuâ, pallidè corneâ, ventricosâ; spirâ brevi, acuminatâ; anfractibus tribus, parvis; ultimo anfractu valdè inflato, breviusculo, post columellam excavato; aperturâ expansâ, anticè subacuminatâ; plicâ columellari prominenti, spiraliter tortuosâ.*

THE SHORT-TAILED LIMNÆA. Shell obliquely tortuous, pale horn, ventricose; spire short, acuminated; whorls three, small; last whorl much inflated, rather short, excavated behind the columella, aperture expanded, anteriorly subacuminated; columellar fold prominent, spirally tortuous.

SOWERBY. (Adopted from MSS.)

Hab. Australia.

Species 106. (Fig. *a*, *b*, Mus. Hanley.)

LIMNÆA SPIRULATA. *Lim. testâ subfusiformi, translucidâ, politissimâ; spirâ productâ, anfractibus paucis, distinctis, convexiùsculis; ultimo anfractu oblongo-ovato; aperturâ oblongâ, plicâ columellari rectiùsculâ haud prominenti.*

THE COILED LIMNÆA. Shell subfusiform, translucid, very smooth; spire produced, whorls few, distinct, rather convex; last whorl oblong-ovate; aperture oblong, columellar fold rather straight, not prominent.

MOUSSON. Journal de Conchyliologie.

Hab. Australia.

Species 107. (Fig. *a*, *b*, Mus. Hanley.)

LIMNÆA GALBANA. *Lim. testâ parvâ, pallidè corneâ, rectiùsculâ, brevi, spirâ aperturam longitudinè æquanti, anfractibus tribus, gradatis; ultimo anfractu brevi, subcylindrico, anticè subtruncato; aperturâ parvâ; plicâ columellari tenui, inconspicuâ.*

THE BRIGHT LIMNÆA. Shell small, pale horny, rather straight, short; spire equalling aperture in length, whorls three, in steps; last whorl short, subcylindrical, anteriorly truncated; aperture small, columellar fold thin, inconspicuous.

SAY. Haldeman's Monograph of Freshwater Shells of the United States.

Hab. New Jersey.

LIMNÆA.

	Plate.	Species.
acicula, *Kokiel*	IV.	21
acuminata, *Lamarck*	X.	66
acuta, *Jeffreys*	II.	13
affinis, *Beck*	V.	31
Angasi, *Scwerby*	II.	12
amygdalus, *Tröschel*	X.	64
angulata, *Sowerby*	VII.	47
appressa, *Say*	III.	20
attenuata, *Say*	XIII.	32
(as *emarginata* erroneously)	V.	
attica, *Küster*	XIV.	93
arcularia, Linnæus	I.	1
auricularia, *Draparnaud*	I., II.	1
Balthica, *Nillson*	XV.	103
Burnetti, *Alder*	VIII.	51
Barbadenses, *Beck*	XIV.	100
Blauneri, *Shuttleworth*	XI.	71
brevicauda, *Sowerby*	XV.	105
bulimoides, *Kuster*	XII.	77
bulla, Benson	IX.	59
Canadensis, *Sowerby*	VII.	45
canalis, *Dupuy*	XI.	75
Californica, *Sowerby*	X.	67
caperata, *Say*	VIII.	53
catascopium, *Say*	V.	33
cerasum, Tröschel	IX.	59
chalybæa, *Gould*	VIII.	52
chlamys, *Benson*	X.	65
coarctata, Lea	X.	36
columella, *Say*	X.	36
cornea, *Valencienus*	I.	5
Cubensis, *Pfeiffer*	VIII.	48
Cumingii, *Adams*	VI.	38
Dalmatica, *Parreys*	XV.	101
decollata, *Mighœls*	VI.	42
delicata, *Say*	XII.	76
Deshayesii, *Adams*	XIV.	95
diaphana, *King*	V.	30
emarginata, *Say* (not Pl. VI.)	VII., XV.	35
expansa, *Haldeman*	XII.	79
elliptica, *Lea*	IX.	61
elodes, *Say*	V., IX.	29
elongata, *Draparnaud*	XI.	68
exilis, *Lea*	XI.	72
ferruginea, *Haldeman*	XII.	80
flava, *Morelet?*	XIII.	87
fossaria, Turton	I.	3
fragilis, Linnæus	I.	5
fusca, *Pfeiffer*	III.	17
Galbana, *Say*	XV.	107
geisericola, *Beck*	IV.	27
Gilbilmanicus, *Costa*	XIII.	86
gingivata, *Goupil*	XIII.	85
globosa, *Sowerby*	XII.	84
glaber, *Müller*	I.	2
glutinosa, *Draparnaud*	II.	9
gracilis, *Say*	III.	19
hians, *Sowerby*	IX.	57
Hoibollii, *Beck*	IV.	22
Hooker's, *Reeve*	XI.	74
humilis, *Say*	XII.	78
intermedia, *Ferrussac*	III.	16
interstriata, *Sowerby*	X.	62
involuta, *Harvey*	II.	8
Japonica, *Sowerby*	XI.	69
Javanica, *Michaud*	VIII.	50
jugularis, *Say*	IV.	24
leucostoma, Lamarck	XI.	68
Lysoni, Deshayes	IX.	59
luteola, *Lamarck*	XV.	104
macrostoma, *Say*	VI.	36
(erroneously as *columella*)		
megastoma, *Say*	II.	11
Melbournensis, *Pfeiffer*	VI.	39
Minuta, Draparnaud	I.	3
Modicella, *Say*	XII.	83
Natalensis, *Kraup*	VII.	46
Navicula, *Valenciennes*	VIII.	49

	Plate.	Species.
nucleus, *Tröschel*	X.	67
Nuttaliana, *Lea*	XI.	70
obscura, Zeigler	I.	6
octanfracta——?	XI.	68
Ouahensis, *Souleyet*	XIII.	90
ovalis, *Sowerby*	IX.	59
ovata, *Draparnaud*	III.	15
pallida, *Adams*	XII.	81
palustris, *Draparnaud*	I.	5
patula, *Tröschel*	II.	10
pelliger, *Shuttleworth*	XIV.	99
peregra, *Draparnaud*	I.	7
Persica, *Parreys?*	XIV.	92
Philadelphica, *Lea*	XII.	82
Philippsi, *Adams and Aryus*	VI.	41
Pingelii, *Beck*	XIV.	98
pinguis, *Say*	XV., III., IX.	18
proxima, *Lea*	VII.	44
pyramidata, *Sowerby*	IX. (Sp.)	58
(erroneously as *emarginata*)	VI. (fig.)	35
reflexa, *Say*, (not Pl. V.)	XIII., XV.	32
Riberiensis. *Reibeisch*	VIII.	54
rufescens, *Gray*	III.	14
Sanderi, *Parreys*	XV.	102
Sandwichensis, *Phillips*	V.	28
scalaris, *Brown*	IX.	60
Siamensis, *Sowerby*	X.	63
solida, *Haldeman*	XIII.	88
soteria, *Parreys*	XIV.	97
speciosa, ——?	I.	5
spirulata, *Mousson*	XV.	106
stagnalis, *Linnæus*	I.	4
Strangei, *Adams and Aryus*	VI.	40
strigata, Parrys	I.	4
succineæformis, *Shuttleworth*	VIII.	55
succinea, *Deshayes*	IV.	26
succinea, *Deshayes*	IX.	57
sulcatula, *Tröschel*	IX.	59
Sumasii, *Baird*	V.	34
Swinhoei, *H. Adams*	IV.	25
tener, *Parreys?*	XIV.	96
truncatula	I.	3
turricula, *Küster*	XIII.	91
turrita, Sowerby	I.	3
umbrosa, *Say*	I.	6
Vahlii, *Beck*	IV.	23
variabilis, Benson	IX.	59
ventricularis, *Küster*	XI.	73
viator, *D'Orbigny*	IX.	56
vinosa, *Adams and Aryus*	VI.	37
viridis, *Quoy*	XIII.	89
vitrea, *Haldeman*	XIV.	94

MONOGRAPH

OF THE GENUS

LIMA.

"Did he stand at the diamond door
Of his house in a rainbow frill?"—*Tennyson.*

1a

1b

2

3a

3b

4

5

Sowerby, del et lith

Vincent Brooks Day & Son, Imp.

LIMA.

PLATE I.

Genus LIMA, *Bruguière.*

Testa bivalvis, unimusculosa, libera aut bysso adhærens, equivalvis, biauriculata, plerumque obliquè ovata aut subtrigona, costis frequenter squamiferis aut striis radiata; cardine recto, edentulo, faveolâ trigonâ in medio areæ subtrigonæ cartilaginem recipienti; umbonibus areâ trigonâ separatis. Epidermis fuscus, tenuis.

Shell bivalve, with one muscle, free or adhering by a byssus, equivalve, biauriculated, generally obliquely ovate or subtrigonal, rayed with frequently squamiferous ribs or striæ; hinge straight, toothless, with a trigonal pit in the middle of a triangular area receiving the cartilage; umboes separated by a trigonal area. Epidermis brown, thin.

Of the twenty-five species enumerated in the following monograph, seven or eight, including *S. squamosa*, are inhabitants of the Red Sea and Mediterranean. Our own seas contribute five species, and the largest of all, *L. excavata*, is found in Norway. There are also a few Australian, Philippine, West Indian, and South Sea species, with a few whose localities are scattered over the Indian and other Seas. A triangular disc containing a smaller triangular cartilaginous pit, and separating the umboes, distinguishes this genus from the *Pectens*.

Most of the species have an hiatus between the anterior margins of their valves, for the passage of a byssus of attachment. Some gape on both sides, and others are closed nearly all round. The group of equilateral shells such as *Lima bullata*, have been separated under the name of *Limatula*. A "Lima's nest" is a collection of *Nullipores*, which the animal strings together by means of the byssus, in the midst of which it finds shelter.

Species 1. (Mus. Jeffreys.)

LIMA LOSCOMBI. *Lim. testâ tenui, ventricosâ, minutissimè striatâ, ferè clausâ, obliquè subovatâ, anticè propè marginem ventralem subangulatâ; areâ cardinali parvâ, auriculis subæqualibus obtusis.*

LOSCOMB'S LIMA. Shell thin, ventricose, very minutely striated, nearly closed, obliquely subovate, anteriorly sub-angular near the ventral margin, hinge area small; auricles nearly equal, obtuse.

LEACH. Sowerby's Genera.

Lima bullata, Turton.

Hab. British Seas.

Species 2. (Mus. Brit.)

LIMA EXCAVATA. *Lim. testâ ovali, tenui, magnâ, ventricosâ, radiatim striatâ, utrinque paulùm hianti; latere antico ad marginem ventralem obliquè rotundatim producto, infrà auriculis in aream angulatam excavato; auriculis posticis magnis, anticis parvis.*

THE EXCAVATED LIMA. Shell oval, thin, large, ventricose, radiately striated, a little gaping on both sides; anterior side obliquely roundly produced at the ventral margin, beneath the auricles excavated in an angular area; posterior auricles large, anterior small.

CHEMNITZ. Conch. 7, p. 355, t. 68, f. 654.

Hab. Norway.

Species 3. (Fig. *a*, *b*, Mus. Brit.)

LIMA BULLATA. *Lim. testâ crassâ, rectiùsculâ, elongato-ovatâ, ventricosissimâ, ad latera ferè clausâ, costis numerosis minutè tuberculatis radiatâ; margine cardinali lato, infrà auriculis uniplicato; auriculis magnis, æqualibus.*

THE BULBOUS LIMA. Shell thick, rather straight, elongately ovate, very ventricose, nearly closed at the side, rayed with numerous minutely tuberculated ribs; hinge margin broad, with a single fold beneath the auricles; auricles large, equal.

BORN. Mus. Cæs. Vind.

Hab. Sorsogon.

November, 1872.

Species 4. (Mus. Brit.)

LIMA MULTICOSTATA. *Lim. testâ crassâ, compressâ, obliquè subtrigonâ, anticè ad marginem ventralem obliquè productâ, costis creberrimis tenuibus squamoso-noduliferis radiatâ; auriculâ anticâ parvâ.*

THE MANY-RIBBED LIMA. Shell thick, compressed, obliquely subtrigonal, anteriorly obliquely produced at the ventral margin, rayed with very numerous thin, scaly-nodose ribs; anterior auricle small.

SOWERBY. Thesaurus Conchyliorum, Lima, Sp. 6, f. 38.

Hab. Red Sea. Mediterranean.

To about twenty-four ribs in *L. squamosa*, there are about thirty-six in this species.

Species 5. (Mus. Brit.)

LIMA ROTUNDATA. *Lim. testâ ventricosissimâ, latâ, obliquè rotundo-subtrigonâ, latè utrinque hianti, posticè ad marginem ventralem subproductâ, costis rugosis moniliferis, subdistantibus radiatâ; auriculis declivibus, anticâ parviusculâ.*

THE ROUNDED LIMA. Shell very ventricose, broad, obliquely rounded-subtrigonal, widely gaping on both sides, posteriorly produced at the ventral margin, rayed with rugose beaded, rather distant ribs; auricles sloped, the anterior one rather small.

SOWERBY. Thesaurus Conchyliorum, Lima, Sp. 11, f. 19.

Hab. Mediterranean.

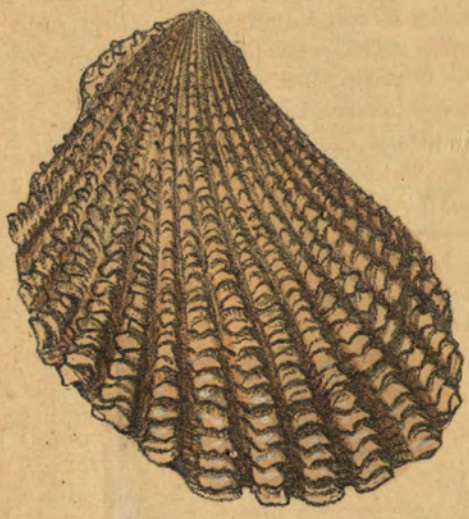
Resembling *Lima ventricosa*, but much shorter, broader, and less oblique.

6a

8a

8b

7



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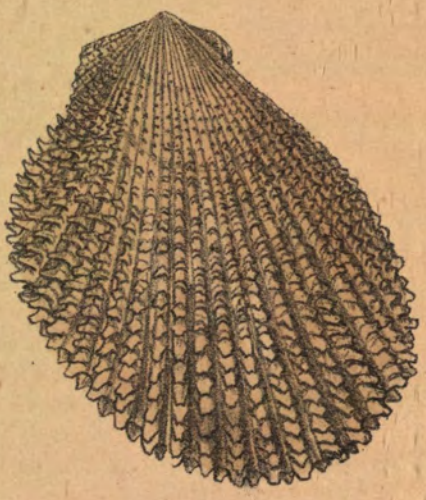


10

6b

Sowerby, del et lith.

Vincent Brooks Day & Son. Imp.

LIMA.

PLATE II.

Species 6. (Fig. *a*, *b*, Mus. Brit.)

LIMA HIANS. *Lim. testâ tenui, subcompressâ, obliquè ovatâ, ad latera lævi, medio minutè striatâ, posticè paululùm, anticè latè hianti; hiatu antico costâ internâ validâ marginato; auriculis anticis acutis; areâ cardinali parvâ.*

THE GAPING LIMA. Shell thin, subcompressed, obliquely ovate, smooth at the sides, striated minutely in the centre, gaping a little posteriorly, widely anteriorly; anterior hiatus bordered with a strong internal rib; anterior auricles sharp; cardinal area small.

GMELIN. (Ostræa) No. 3333.
Lima fragilis, Montagu.
Lima tenera, Turton.
Lima aperta, Sowerby.
Hab. Britain, &c.

More ovate and broad than *Lima fragilis*.

Species 7. (Mus. Brit.)

LIMA TENERA. *Lim. testâ subovatâ, subcompressâ, rectiusculâ, tenui, latâ, epidermide fusco indutâ, costellis minutis granoso-nodosis, divaricatim interruptis subrugatâ; auriculis anticis latè hiantibus, crassis; cardine crasso, obsoletè plicato.*

THE SLENDER LIMA. Shell subovate, subcompressed, rather straight, thin, broad, covered with a brown epidermis, rather roughened with minute granoso-nodulous divergently interrupted riblets; anterior auricles broadly gaping, thick; hinge thick, obsoletely plaited.

CHEMNITZ. Conch., tom. vii. p. 352, tab. 68, f. 652.
Ostræa glacialis, Gmelin.
Hab. Philippines, Singapore, &c.

Much more finely sculptured, and altogether a thinner shell than *Lima scabra*.

Species 8. (Fig. *a*, *b*, Mus. Brit.)

LIMA SCABRA. *Lim. testâ crassâ, compressâ, rectiusculâ, posticè paululùm, anticè magis hianti; costis numerosis divaricatim interruptis, subnodosis rugatâ; auriculis anticis crassis, reflexis.*

THE SCABROUS LIMA. Shell thick, compressed, rather straight, posteriorly a little, anteriorly more gaping; roughened with numerous divergingly interrupted subnodose ribs; anterior auricles thick, reflected.

BORN. Mus. Cæs., p. 110.
Pecten aspera, Chemnitz.
Ostræa glacialis, Gmelin.
Hab. West Indies.

Species 9. (Mus. Macandrew.)

LIMA PAUCICOSTATA. *Lim. testâ solidâ, obliquâ, subtrigonâ, anticè ad marginem ventralem obliquè productâ, costis crassis, paucis, subrotundatis squamis fornicatis extantibus brevibus imbricatis armatâ; latere anticè excavato; cardine magno, trigono.*

THE FEW-RIBBED LIMA. Shell solid, oblique, subtrigonal, anteriorly obliquely produced at the margin, armed with few, thick rounded ribs imbricated with vaulted extant, short scales; anterior side excavated; hinge large, trigonal.

SOWERBY. Thesaurus Conchyliorum, *Lima*, sp. 7, figs. 14, 17.
Hab. Suez. R. Macandrew, Esq.

The specimens brought by Mr. Macandrew from the Red Sea, agree well with those formerly described from Mr. Cuming's collection.

Species 10. (Mus. Brit., &c.)

LIMA SQUAMOSA. *Lim. testâ crassâ, obliquâ, compressâ,*

obliquè subovatâ, anticè ad marginem ventralem obliquè productâ, costis numerosis imbricatim squamatis radiantibus armatâ; areâ anticâ laterali infrà auriculas depressâ.

THE SQUAMOSE LIMA. Shell thick, oblique, compressed, obliquely subovate, anteriorly obliquely produced at the ventral margin; armed with numerous imbricately squamose radiating ribs; lateral anterior area beneath the auricles depressed.

LAMARCK, Anim. sans Vert.

Ostræa Lima. Linnæus.

Hab. Red Sea and Mediterranean.

11a.

12.

13.

11b.

14a.

14b.

15.

Sowerby, del et Lith.

Vincent Brooks Day & Son, Imp.

LIMA.

PLATE III.

Species 11. (Fig. *a*, *b*, Mus. Brit.)

LIMA VENTRICOSA. *Lim. testâ obliquè ovatâ, latâ, ventricosissimâ, albâ, nonnunquam fasciis concentricis subaurantiis ornatâ, costis rugosis subirregularibus, distantibus, moniliformibus arcuatâ; mediocriter hianti.*

THE VENTRICOSE LIMA. Shell obliquely ovate, broad, very ventricose, white, sometimes ornamented with concentric slightly orange bands, armed with rough, rather irregular, distant, beaded ribs; moderately gaping.

SOWERBY. Thesaurus Conchyliorum, Lima, Sp. 10, f. 6, 7.

Lima glacialis, Poli.

Hab. Mediterranean.

The name *L. glacialis*, applied by Poli to this species, had been previously applied by Gmelin to *Lima scabra*. It differs from *L. fasciata*, in being much more ventricose and less oblique, and in the ribs being beaded and more distant.

Species 12. (Mus. —— ? copied.)

LIMA ANGUSTATA. *Lim. testâ tenuissimâ, angustâ, obliquâ, compressâ, albâ, latè anticè hianti, tenuiter creberrimè radiatim striatâ.*

THE NARROW LIMA. Shell very thin, narrow, oblique, compressed, white, with a wide hiatus in front, finely very closely radiately striated.

SOWERBY.

Lima aperta (hians) var. Sowerby in Thes.

Hab. —— ?

I cannot now remember whence was obtained the specimen of this shell figured in the Thesaurus; but it is very much narrower and more compressed than *Lima hians* with which it is erroneously connected in that work.

Species 13. (Mus. Brit.)

LIMA ANGULATA. *Lim. testâ ventricosâ, albâ, obliquè subtrigonâ, anticè ad marginem ventralem angulatâ, tenuissimâ radiatim minutè striatâ; margine postico ventrali tenuiter dentato.*

THE ANGULAR LIMA. Shell ventricose, white, obliquely subtrigonal, anteriorly angular at the ventral margin, very finely radiately striated; posterior ventral margin finely dentated.

SOWERBY. Thesaurus Conchyliorum, Lima, Sp. 12, f. 39, 40; and as *L. aperta*, f. 29.

Lima Braziliana, MS. Brit. Mus.

Lima orientalis, Adams and Reeve.

Hab. Panama, *Cuming*. New Caledonia (var. *orientalis*).

Species 14. (Fig. *a*, *b*, Mus. Brit.)

LIMA DENTATA. *Lim. testâ obliquè elongatâ, tenui, subcompressâ, anticè paululum, posticè latè hianti; costis distantibus scabris, ad marginem dentatis, radiatâ; auriculis anticis parvis; areâ cardinali latâ.*

THE TOOTHED LIMA. Shell obliquely elongated, thin, subcompressed, gaping a little anteriorly, widely posteriorly; rayed with distant scabrous ribs dentated at the margin; anterior auricles small, hinge area wide.

SOWERBY. Thesaurus Conchyliorum, Lima, Sp. 17, f. 30, 31.

Hab. —— ?

A rather remarkable species for its sculpture, the ribs being distant and sharp, projecting at the ventral margin.

Species 15. (Mus. Brit.)

LIMA STRANGEI. *Lim. testâ tenuiusculâ rectiùsculâ, elongatâ, subæquilaterali, ventricosâ, albâ, angustâ, costis distantibus acutis medio radiatâ; auriculis subæqualibus, acutè angulatis, ad latera lævigatâ.*

STRANGE'S LIMA. Shell rather thin, nearly straight, elongated, subequilateral, ventricose, white, narrow, rayed with distant sharp ribs in the middle, auricles nearly equal, sharply angular, smooth at the sides.

A. ADAMS. Proc. Zool. Soc.

Hab. Moreton Bay.

Rather more oblique, thinner, and less ventricose than *Lima bullata*, and with distant, sharp teeth.

16a.

16b.

16c.

17a.

18a.

18b.

17b.

Sowerby. del et Lith.

Vincent Brooks, Day & Son. Imp.

LIMA.

PLATE IV.

Species 16. (Fig. *a*, Mus. Taylor, *b*, *c*, Mus. Brit.)

LIMA ARCUATA. *Lim. testâ obliquè subtrigonâ, versus marginem dorsalem attenuatâ, ad marginem ventralem latè expansâ, subcompressâ, utrinque latissimè hianti; margine ventrali posticè obliquè producto; costis radiantibus inæqualibus.*

THE ARCHED LIMA. Shell obliquely subtrigonal, attenuated towards the dorsal margin, expanded at the ventral margin, rather compressed, very widely gaping on both sides; ventral margin posteriorly obliquely produced; radiating ribs unequal.

SOWERBY. Thesaurus Conchyliorum, Lima, Sp. 15, f. 41, 42.

Hab. Lord Hood's Island, under coral rocks. Panama. Guayaquil Bay. Guacomayo.

The small specimen, f. *a*, is from Panama, evidently a young shell, but exhibiting the characters in which the species differs from *Lima fragilis*, namely the curve of the shell giving a wide hiatus, and the broad expansion of the ventral margin.

Species 17. (Fig. *a*, *b*, Mus. Brit.)

LIMA FASCIATA. *Lim. testâ tenui, ventricosâ, perobliquè ovatâ, latâ, albâ, concentricè pallidè fulvo-fasciatâ, anticè inter margines laterales et ventrales angulatâ; utrinque hianti; costis acutis asperatis, inæqualibus radiatâ; margine cardinali lato, auriculis acutis; margine ventrali posticè producto, anticè acclivi.*

THE BANDED LIMA. Shell thin, ventricose, very obliquely ovate, broad, white, concentrically banded with pale fawn, anteriorly angular between the lateral and ventral margins; gaping on each side; rayed with sharp, rough, unequal ribs; hinge margin broad, with sharp auricles; ventral margin produced, sloped upwards in front.

LINNÆUS. Systema Naturæ.

Lima inflata, Lamarck.

Lighter, more oblique and less ventricose than *Lima ventricosa*, and the ribs sharper and more numerous.

Species 18. (Fig. *a*, *b*, Mus. Brit.)

LIMA FRAGILIS. *Lim. testâ tenui, compressâ, valdè obliquâ, angustiùsculâ, albâ, nisi epidermide pallidè fusco indutâ, costis distantibus acutis, ad marginem ventralem dentatis radiatâ; utrinque mediocriter hianti; margine laterali anticè convexo-arcuato; margine ventrali posticè obliquè producto.*

THE FRAGILE LIMA. Shell thin, compressed, very oblique, rather narrow, white unless covered by a pale brown epidermis, rayed with distant sharp ribs, dentated at the ventral margin, gaping moderately on both sides, lateral margin convexly arched in front; ventral margin posteriorly obliquely produced.

CHEMNITZ. Conch. 7, t. 61, f. 650.

Lima dehiscens, Conrad.

Lima linguatula, Lamarck.

Hab. Tahiti. Philippines.

The South Sea variety, fig. *a*, may be a little less oblique and more ventricose than the Philippine one, fig. *b*, but there seems to be no essential difference between them.

20 a.

19

20 b.

21.

22.

23.

24.

25.

26.

27.

LIMA.

PLATE V.

Species 19. (Mus. Cum. in Brit.)

LIMA CUMINGII. *Lim. testâ parvâ, obliquâ, angustâ, compressâ, medio lateris antici angulatâ, vix hianti; costis duodecim medianis distantibus radiatâ; margine ventrali anticè acclivi, posticè obliquè subexpansâ.*

CUMING'S LIMA. Shell small, oblique, narrow, compressed, angular in the middle of the anterior side, scarcely gaping; rayed with twelve central distant ribs; ventral margin anteriorly sloped upwards, posteriorly obliquely slightly expanded.

SOWERBY. Proc. Zool. Soc.

Hab. Isl. Luzon, Philippines.

The valves of this pretty little shell are closed nearly all round.

Species 20. (Mus. Jeffreys.)

LIMA SARSII. *Lim. testâ parvâ, fuscâ, intùs subaurantiâ, rectâ, breviter ovatâ, subæquilaterali, costis numerosis squamosis rotundis radiatâ; margine cardinali lato, minutissimè denticulato; auriculis æqualibus.*

SARS'S LIMA. Shell small, brown, slightly orange within, straight, shortly oval, subequilateral, rayed with numerous squamose rounded ribs; hinge margin broad, very minutely denticulated; auricles equal.

LÖVEN. Mollusca of Scandinavia.

Hab. Scandinavian Seas.

Species 21. (Mus. Brit.)

LIMA JAPONICA. *Lim. testâ ovatâ, ventricosâ, latâ, rectiùsculâ, subæquilaterali, costis validis, subacutis, numerosis radiatâ; margine ventrali vix obliquè producto; margine cardinali lato; auriculis subæqualibus; umbonibus productis.*

THE JAPAN LIMA. Shell ovate, ventricose, broad, rather straight, nearly equilateral, rayed with numerous strong, rather sharp ribs; ventral margin scarcely obliquely produced; hinge margin broad; auricles nearly equal; umboes produced.

A. ADAMS. Proc. Zool. Soc.

Hab. Japan.

Species 22. (Mus. Brit.)

LIMA SUBAURICULATA. *Lim. testâ parvâ, rectâ, angustâ, subæquilaterali, clausâ, ventricosissimâ, tenui, albâ, striis tenuibus, medio radiatâ, sulco mediani notatâ; lateribus lævigatis; auriculis parvis, æqualibus; umbonibus elevatis, acutè productis.*

THE SUBAURICULATED LIMA. Shell small, straight, narrow, subequilateral, closed, very ventricose, thin, white, rayed in the middle with thin striæ, marked with a central sulcus; sides smooth; auricles small, equal; umboes elevated, acutely produced.

MONTAGU. British Shells.

Limâ sulcata, Möller.

Hab. Great Britain. Scandinavia.

Species 23. (Mus. Brit.)

LIMA ELLIPTICA. *Lim. testâ rectiùsculâ, angustâ, oblongo-ovatâ, tenui, subæquilaterali, albâ, clausâ, ventricosissimâ, striis tenuibus centralibus, ad latera evanidis, radiatâ, sulcâ postmediani subobliquâ notatâ; margine ventrali posticè paulo obliquè producto.*

THE ELLIPTIC LIMA. Shell rather straight, narrow, oblong, ovate, thin, subequilateral, white, closed, very ventricose, rayed with thin striæ disappearing at the sides, marked with a post-central

rather oblique sulcus; ventral margin posteriorly a little produced.

JEFFREYS. British Shells.

Hab. North Britain. Scandinavia.

This species is described as differing from *Lima subauriculata* in being less narrow and a little more oblique; Mr. Jeffreys has observed that the longitudinal sulcus, which in that species is central, in the present inclines towards the posterior side.

Species 24. (Mus. Brit.)

LIMA FALKLANDICA. *Limâ testâ breviter ovatâ, clausâ, albâ, solidâ, latâ, ventricosâ, subæquilaterali; costis haud numerosis centralibus radiatâ; lateribus lævigatis.*

THE FALKLAND LIMA. Shell shortly oval, closed, white, solid, broad, ventricose, subequilateral; rayed with central, not numerous ribs; smooth at the sides.

A. ADAMS. Proc. Zool. Soc.

Hab. Falkland Isles.

Shorter and broader in proportion than any of the subequilateral species excepting *L. Sarsii.*

Species 25. (Mus. Brit.)

LIMA PECTINATA. *Lim. testâ parvâ, subrotundâ, obliquâ, subfuscâ, costis paucis rotundis obliquè radiatâ; posticè ad marginem ventralem obliquè productâ; latere antico rectiùsculo, auriculâ minutissimâ; margine cardinali minutissimè denticulato; umbonibus valdè productis.*

THE PECTINATED LIMA. Shell small, rather rounded, oblique, brownish, obliquely rayed with few rounded ribs; anteriorly obliquely produced at the ventral margin; anterior side rather straight, with very small auricle; hinge margin very minutely denticulated; umboes much produced.

A. ADAMS. (Limæa). Proc. Zool. Soc.

Hab. Gulf of Suez.

Species 26. (Mus. Brit.)

LIMA CEYLANICA. *Lim. testâ parvâ, subobliquâ, subæquilaterali, oblongo-ovatâ, pallidè fuscâ, costis acutiùsculis numerosis propè latera subevanidis radiatâ; margine ventrali posticè paulo producto.*

THE CEYLON LIMA. Shell small, a little oblique, subequilateral, oblong-ovate, pale brown, rayed with rather acute numerous ribs almost disappearing near the sides; ventral margin a little produced posteriorly.

A. ADAMS. Proc. Zool. Soc.

Hab. Ceylon.

Species 27. (Mus. Brit.)

LIMA BULLIFERA. *Lim. testâ parvâ, compressâ, obliquè subtrigonâ, ad laterem anticum excavatâ, ad marginem ventralem anticè productâ, costis numerosis tuberculis bulliformibus ferentibus radiatâ.*

THE BUBBLE-BEARING LIMA. Shell small, compressed, obliquely subtrigonal, excavated at the anterior side, produced anteriorly at the ventral margin, rayed with numerous ribs bearing bubble-shaped tubercles.

DESHAYES. Conchyliologie de l'Isle de la Réunion.

Hab. Isl. Bourbon.

LIMA.

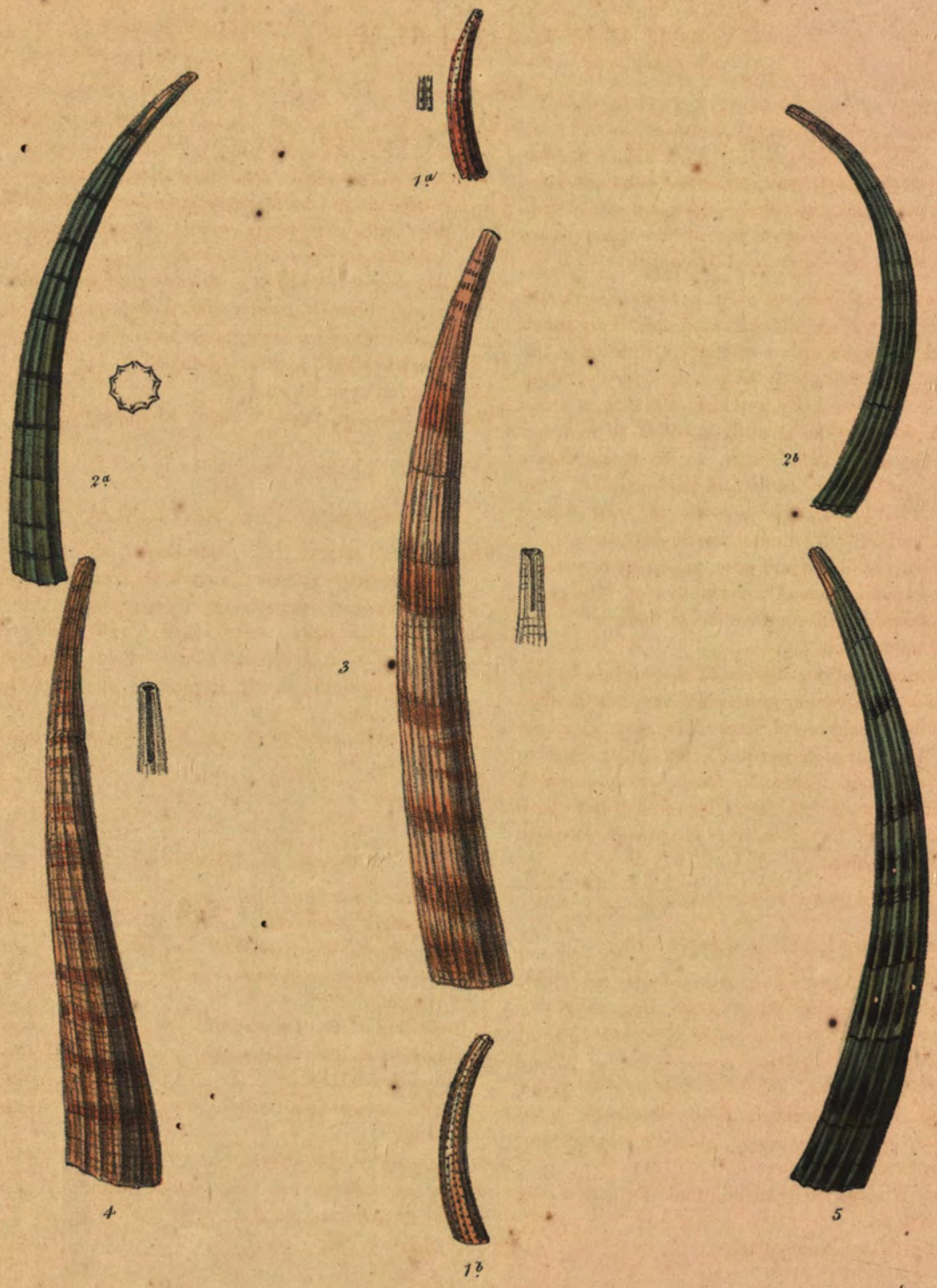
	Plate.	Species.
angulata, *Sowerby*	III.	13
angustata, *Sowerby*	III.	12
aperta, Sowerby	II.	6
arcuata, *Sowerby*	IV.	16
aspera, Chemnitz	II.	8
Braziliana, MS.	III.	13
bullata, Montagu	I.	1
bullata, *Born*	I.	3
bullifera, *Deshayes*	V.	27
Ceylanica, *A. Adams*	V.	26
Cumingii, *Sowerby*	V.	19
dentata, *Sowerby*	III.	14
elliptica, *Jeffreys*	V.	23
excavata, *Chemnitz*	I.	2
fasciata, *Linnæus*	IV.	17
fragilis, *Chemnitz*	IV.	18
fragilis, Montagu	II.	6
glacialis, Gmelin	II.	8
glacialis, Poli	III.	11
hians, *Gmelin*	II.	6
Japonica, *A. Adams*	V.	21
Loscombi, *Leach*	I.	1
multicostata, *Sowerby*	I.	4
orientalis, Ad. & Reeve	III.	13
paucicostata, *Sowerby*	II.	9
pectinata, *A. Adams*	V.	25
rotundata, *Sowerby*	I.	5
Sarsii, *Löven*	V.	20
scabra, *Born*	II.	8
squamosa, *Lamarck*	II.	10
Strangei, *A. Adams*	III.	15
subauriculata, *Montagu*	V.	22
Falklandica, *A. Adams*	V.	24
tenera, *Chemnitz*	II.	7
tenera, Turton	II.	6
ventricosa, *Sowerby*	III.	11

MONOGRAPH

OF THE GENUS

DENTALIUM.

"Did he push, when he was uncurled,
A golden foot or a fairy horn
Through his dim water world?"—*Tennyson.*



Sowerby, del et lith

Vincent Brooks Day & Son, Imp.

DENTALIUM.

PLATE I.

Genus DENTALIUM, Linnæus.

Testa elongata, tubæformis, arcuata, haud spiralis; apice perforato; aperturâ simplici, rotundâ.

Shell elongated, tube-shaped, arched, not spiral; apex perforated; aperture simple, rounded.

In an analogical point of view a *Dentalium* should be regarded as a *Fissurella* with the apex very much raised and extended, with a similar perforation at the end. And as in that genus there is not only the round perforation, but generally a slit on each side of it, so as to form the "key-hole," as it is called, so in many instances there is a little fissure on the dorsal, rarely on the ventral side of the apical perforation in *Dentalium*. The presence or absence of such fissure cannot be sufficient to found a generic distinction upon, since it varies in length and position, or may be present or absent in individuals of the same species. The genus ENTALIS, therefore, of some authors is included in the following monograph.

The geographical distribution of the various species of the genus is extremely wide. We have two British, many Indian, and several Australian and American species. Many fine sorts were collected by Mr. Cuming in the Philippines. Since Mr. Sowerby's monograph in the Thesaurus, a few interesting species have been described by Mr. Gould, raising the present recorded number to fifty-five.

Species 1. (Mus. Cum. in Brit.)

DENTALIUM BELCHERI. *Den. testâ albidâ, seu rubrâ, breviùsculâ, validè arcuatâ, lentè crescenti, solidâ, costis crebris, rugosis, quasi articulatis liratâ; apice truncato, integro.*

BELCHER'S DENTALIUM. Shell whitish, or red, rather short, strongly curved, slowly increasing, solid, ridged with close, rough, quasi-articulated ribs; apex truncated, entire.

SOWERBY. Thesaurus Conchyliorum, Dentalium, Sp. 27, f. 28, 29.

Hab. East Indian Archipelago.

Species 2. (Fig. *a*, *b*, Mus. Brit.)

DENTALIUM APRINUM. *Den. testâ elongatâ, angustâ, validè arcuatâ, lentè crescenti, viridi fasciatim pictâ, costis circa decem arcuatâ, interstitiis planis; apice integro; aperturâ angulatâ.*

THE BOAR'S-TUSK DENTALIUM. Shell elongated, narrow, strongly curved, slowly increasing, painted in bands with green, strengthened with about ten ribs, interstices flat; aperture angular.

LINNÆUS. Systema Naturæ.

Hab. St. Nicholas, Island of Zebu, Philippines.

Species 3. (Mus. MacAndrew.)

DENTALIUM VERNEDII. *Den. testâ magnâ, pallidè fulvâ, fusco-rubescenti fasciatâ, rectiusculâ, tenuiter striatâ, lentè crescenti; fissurâ apicali longiùsculâ.*

VERNEDI'S DENTALIUM. Shell large, pale fulvous, banded with a reddish-brown, finely striated, rather straight, slowly increasing; apical fissure rather long.

HANLEY. Sowerby's Thesaurus Conchyliorum, Dentalium, Sp. 33, f. 3.

Hab. Japan.

Species 4. (Mus. Brit.)

DENTALIUM RECTUM. *Den. testâ crassâ, magnâ, retrorsim subarcuatâ, pallidâ, pyramidali, subacuminatâ, ad marginem aperturâ latâ; costis numerosis inæqualibus rugosis; fissurâ apicali elongatâ.*

THE STRAIGHT DENTALIUM. Shell thick, large, curved a little backwards, pale pyramidal, subacuminated, broad at the margin of the aperture, ribs numerous, unequal, rough; apical fissure long.

GMELIN. In ed. Linn. Syst. Nat.

Dentalium elephantinum, Deshayes, not Linn.

Dentalium striatum, Martini.

Hab. Adriatic Sea.

The specimens hitherto procured appear to be in a semi-fossilized state.

Species 5. (Mus. Brit.)

Dentalium elephantinum. *Den. testâ solidâ, magnâ, validè arcuatâ, rapidè crescenti, viridi fasciatâ, costis decem circa laqueatâ, apice integro.*

The Elephant's-tusk Dentalium. Shell solid, large, strongly arched, rapidly increasing, green-banded, fluted with about ten ribs; apex entire.

Linnæus. Systema Naturæ.

Dentalium arcuatum, Gmelin.

Hab. Philippines, &c.

Deshayes having erroneously, as we think, applied the name of *Dentalium elephantinum* to the shell which Gmelin named *D. rectum*, adopted Gmelin's name *D. arcuatum* to this well-known species, which there is little doubt is the true species of Linnæus.

6

7

8

9a

9b

10

12

11

Sowerby, del et lith.

Vincent Brooks Day & Son, Imp.

DENTALIUM.

PLATE II.

Species 6. (Mus. Brit.)

DENTALIUM HEXAGONUM. *Den. testâ albâ, angustiusculâ, subsolidâ, mediocriter arcuatâ, lævigatâ; costis angulatis lævibus sex angulos testæ efformantibus; apice integro.*

THE HEXAGONAL DENTALIUM. Shell white, rather narrow, rather solid, with a medium curve, smooth, with six angular smooth ribs forming the angles of the shell; apex entire.

GOULD. Invert. Massachusetts.

Hab. North America, China, and Singapore.

Species 7. (Mus. Belcher, olim.)

DENTALIUM FORMOSUM. *Den. testâ validè arcuatâ, rapidè crescenti, acuminatâ, latâ, viridi, rubro, cæruleoque vividè alternatim fasciatâ; costis quindecim validis, rotundis, æqualibus, longitudinalibus laqueatâ; apice fissuratâ, aperturâ magnâ.*

THE BEAUTIFUL DENTALIUM. Shell strongly arched, rapidly increasing, acuminated, wide, banded alternately with vivid green, red, and blue; fluted with fifteen longitudinal, strong, rounded, equal ribs; apex fissured; aperture large.

ADAMS AND REEVE. Voy. Samarang, p. 71.

Hab. Sooloo Archipelago.

This beautiful species increases more rapidly in size from apex to aperture than any other.

Species 8. (Mus. Cuming in Brit.)

DENTALIUM ZELANDICUM. *Den. testâ rectiùsculâ, angustâ, pallidè fusco ferrugineo fasciatâ, costis numerosis rugosis arcuatâ; vix arcuatâ; apice fissurato; aperturâ angustiùsculâ.*

THE NEW ZEALAND DENTALIUM. Shell rather straight, narrow, banded with pale ferruginous brown, armed with numerous rough ribs, very little arched; apex fissured; aperture rather narrow.

SOWERBY. Thes. Conch. Dentalium, Sp. 13, f. 31.

Hab. New Zealand.

This shell is much narrower and even straighter than *Dentalium rectum*, to which it bears some resemblance.

Species 9. (Fig. *a*, *b*, Mus. Cum. in Brit.)

DENTALIUM LONGITRORSUM. *Den. testâ elongatâ, angustâ, validè arcuatâ, politissimâ, succineâ, subpellucidâ; apice breviter fissuratâ; aperturâ angustâ.*

THE LONG-BACKED DENTALIUM. Shell elongated, narrow, strongly arched, very much polished, amber-coloured, rather pellucid; apex shortly fissured; aperture narrow.

REEVE. Conch. Syst.

Dentalium politum. Déshayes, not Linnæus.

Dentalium Lamarckii. Chemn.

Hab. Philippines.

The difference in curve between the two specimens figured tends to point out that that character is not by any means to be relied on as indicating difference of species among the Dentalia.

Species 10. (Mus. Cum. in Brit.)

DENTALIUM INTERSTRIATUM. *Den. testâ elongatâ, mediocriter arcuatâ, angustâ, costis validis, rotundis circa decem laqueatâ; interstitiis longitudinaliter striatis.*

THE INTERSTRIATED DENTALIUM. Shell elongated, moderately arched, narrow, fluted with about ten strong rounded ribs; interstices longitudinally striated.

SOWERBY. Thesaurus Conchyliorum, Dentalium, Sp. 38.

Hab. Island Bohol, Philippines.

Nearly resembling *Dentalium aprinum* in form and colour, but striated between the ribs.

Species 11. (Mus. Taylor.)

DENTALIUM SEXCOSTATUM. *Den. testâ albâ, elongatâ, angustâ, validè arcuatâ; costis validis, sex longitudinalibus rotundis, crassis, laqueatâ; interstitiis profundis, striatis; apice integro.*

THE SIX-RIBBED DENTALIUM. Shell white, elongated, narrow, strongly curved; fluted with six longitudinal, strong, rounded, thick ribs; interstices deep, rounded; apex entire.

SOWERBY. Thesaurus Conchyliorum, Sp. 44.

Hab. —— ?

Differing from *Dentalium hexagonum* in the thickness and roundness of the ribs, and the depth and striation of the interstices.

Species 12. (Mus. Brit.)

DENTALIUM OCTOGONUM. *Den. testâ albâ, crassâ, lævigatâ, costis validis rotundis octo laqueatâ, angustâ, leviter arcuatâ; interstitiis latis, longitudinaliter striatis.*

THE EIGHT-SIDED DENTALIUM. Shell white, thick, smooth, fluted with eight strong rounded ribs, narrow, slightly arched; interstices wide, longitudinally striated.

LAMARCK. Anim. s. vert.

Hab. China.

13 b

13 a

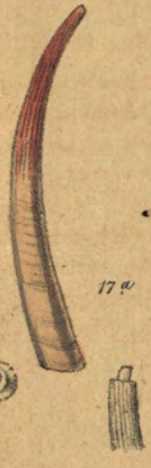
13 c

13 d

15

14

16



17 a

18

17 b

Sowerby del et lith.

Vincent Brooks Day & Son Imp.

DENTALIUM.

PLATE III.

Species 13. (Fig. *a*, *b*, *c*, *d*, Mus. Brit.)

DENTALIUM NOVEMCOSTATUM. *Den. testâ solidâ, plerumque rubrâ fasciatâ; gradatim crescenti, mediocriter arcuatâ, costis novem, solidis, rotundis, infrà medium et versùs marginem evanidis laqueatâ; interstitiis striatis; apice integro.*

THE NINE-RIBBED DENTALIUM. Shell solid, generally red banded; gradually increased, moderately curved, fluted with nine solid, rounded ribs disappearing below the middle, and towards the margin; interstices striated; apex entire.

LAMARCK. *Deshayes*, monograph of Dentalium, pl. ii. f. 11, 12.

Dentalium fasciatum, Lamarck (var.).

Hab. Mediterranean.

Towards the apex the ribs are strong, and the interstices deep, but become fainter from the middle, till at the margin there is hardly a trace of them.

Species 14. (Mus. Brit.)

DENTALIUM JAVANUM. *Den. testâ politâ, pallidè succineâ, validè arcuatâ, gradatim crescenti, costis octo angulatis æquidistantibus laqueatâ, interstitiis latis, planatis; fissurâ apicali parvâ.*

THE JAVA DENTALIUM. Shell polished, pale amber, strongly arched, gradually increasing, fluted with eight angular, equidistant ribs; interstices wide, flat; apical fissure small.

SOWERBY. Thesaurus Conchyliorum, Dentalium, Sp. 39, f. 12.

Hab. Java.

Species 15. (Mus. Taylor.)

DENTALIUM BISEXANGULATUM. *Den. testâ albidâ, pallidissimè fasciatâ, solidâ, validè arcuatâ, gradatim crescenti, costis undecim vel duodecim solidis rotundis laqueatâ; apice breviter fissurato.*

THE TWELVE-RIBBED DENTALIUM. Shell whitish, very pale banded, solid, strongly curved, gradually increasing, fluted with eleven or twelve solid, rounded ribs; apex with a short fissure.

SOWERBY. Thesaurus Conchyliorum, Dentalium, Sp. 35, f. 8.

Hab. Java.

Some specimens have only eleven instead of the twelve ribs which constitute the normal number.

Species 16. (Mus. Cuming.)

DENTALIUM EBURNEUM. *Den. testâ elongatâ, angustâ, semipellucidâ, pallidè succineâ, mediocriter arcuatâ, annulis concentricis elevatis numerosis cinctâ; apice attenuatâ, fissurâ apicali brevissimâ.*

THE IVORY DENTALIUM. Shell elongated, narrow, semipellucid, pale amber-coloured, not very strongly arched, banded with numerous elevated concentric rings; apex attenuated; apical fissure very small.

LINNÆUS. Systema Naturæ.

Dentalium annulatum, Sowerby.

Dentalium Indicum, Chemn.

Hab. Indian Seas.

Species 17. (Fig. *a*, *b*, Mus. Brit.)

DENTALIUM TARENTINUM. *Den. testâ solidâ, latâ, validè arcuatâ, rapidè crescenti, albidâ, nonnunquam versùs apicem roseo tinctâ, medio et ad marginem lævigatâ, versùs apicem minutè striatâ; apice plerumque integro, acuminato.*

THE TARENTUM DENTALIUM. Shell solid, broad, strongly arched, rapidly enlarged, whitish, sometimes tinged with rose-colour near the apex; smooth at the middle and near the margin, minutely striated towards the apex; apex generally entire.

Lamarck. Animaux sans vertèbres.
Hab. Gulf of Tarentum.

The normal distinctions between this species and *Dentalium entale* are that the latter is fissured at the apex and not striated, while this species is striated and not fissured.

Species 18. (Mus. Cuming in Brit.)

Dentalium Philippinarum. *Den. testâ elongatâ, angustissimâ, rectiùsculâ, semipellucidâ, politissimâ, subaureo-fuscâ, annulis concentricis elevatis numerosis cinctâ; apice attenuato, fissurâ apicali brevissimâ.*

The Philippine Dentalium. Shell elongated, very narrow, rather straight, semipellucid, highly polished, somewhat golden brown, banded with numerous elevated concentric rings; apex attenuated; apical fissure very short.

Sowerby. Thesaurus Conchyliorum, Dentalium, Sp. 12, f. 54.
Hab. Isl. Samar, Philippines.

Generally of a darker golden-brown colour, much narrower and straighter than *Dentalium eburneum*.

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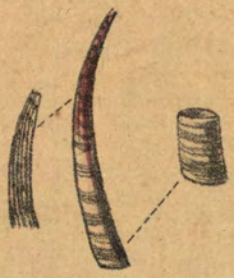

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Sowerby del et lith.

Vincent Brooks Day & Son, Imp

DENTALIUM.

PLATE IV.

Species 19. (Mus. Brit.)

DENTALIUM SEMIPOLITUM. *Den. testâ tenui, subhyalinâ, albâ, angustâ, versùs apicem roseo pictâ et tenuiter striatâ, deinde ad marginem politissimâ; apice integro.*

THE HALF-POLISHED DENTALIUM. Shell thin, rather hyaline, white, thin, narrow, rose-tinted and finely striated near the apex, thence to the margin highly polished; apex entire.

SOWERBY. Thesaurus Conchyliorum, Dentalium, Sp. 24, f. 23.

Hab. South Seas.

Species 20. (Fig. *a*, *b*, Mus. Cum. in Brit.)

DENTALIUM TETRAGONUM. *Den. testâ albâ, politâ, solidâ, angustâ, rectiùsculâ, apice et usque ad medium quadrigonâ, acutè angulatâ, medio et usque ad marginem rotundatâ.*

THE FOUR-SIDED DENTALIUM. Shell white, polished, solid, narrow, rather straight, at the apex and as far as the middle four-sided, acutely angular, at the middle and as far as the margin rounded.

SOWERBY. Thesaurus Conchyliorum, Sp. 49, f. 21, 22.

Hab. West Columbia.

Species 21. (Mus. Brit.)

DENTALIUM DENTALE. *Den. testâ elongatâ, angustâ, rugosâ, rubro et aurantio fasciatâ, costellis duodecim et striis minutissimis interstitialibus sculptâ; apice integro.*

THE TOOTH-LIKE DENTALIUM. Shell elongated, narrow, rugose, banded with red and orange, sculptured with twelve small ribs and very minute interstitial striæ; apex entire.

LINNÆUS. Systema Naturæ.

Hab. Mediterranean.

In *Dentalium Lessoni* the interstices are smooth, and the whole circumference becomes smooth and polished towards the margin; but in this species the ribs are continuous and the interstices striated.

Species 22. (Fig. *a*, *b*, *c*, Mus. Brit.)

DENTALIUM LESSONI. *Den. testâ elongatâ, angustâ, acuminatâ, lævigatâ, rubro vel aurantio, vel fulvo fasciatâ, costellis duodecim, versùs marginem evanidis laqueatâ; interstitiis politis; apice integro.*

LESSON'S DENTALIUM. Shell elongated, narrow, acuminated, smooth, red or orange banded with light brown, fluted with twelve riblets which become nearly obsolete towards the margin; interstices polished; apex entire.

DESHAYES. Monograph of Dentalium.

Hab. Mediterranean, Algiers, &c.

Species 23. (Mus. Cuming in Brit.)

DENTALIUM PSEUDOSEXAGONUM. *Den. testâ tenui, angustâ, lævigatâ, albâ, moderatè arcuatâ, versùs apicem acutè hexagonâ, medio et versùs marginem rotundâ et striatâ; apice integro.*

THE PSEUDO-SEXAGONAL DENTALIUM. Shell thin, narrow, smooth, white, moderately arched, acutely six-sided towards the apex, rounded and striated towards the margin; apex entire.

DESHAYES. Monograph of Dentalium.

Hab. West Columbia and Isl. Masbate, Philippines.

Species 24. (Mus. Brit.)

DENTALIUM RUBESCENS. *Den. testâ solidâ, lævigatâ, angustâ, rubescenti, fasciis rubris transversalibus annulatâ, gradatim crescenti, rectiusculâ; apice integro.*

THE REDDISH DENTALIUM. Shell solid, smooth, narrow, reddish, ringed with transverse red bands; gradually increasing, rather straight; apex entire.

DESHAYES. Monograph of Dentalium.

Hab. Mediterranean.

Species 25. (Mus. Cum. in Brit.)

DENTALIUM DISPAR. *Den. testâ albâ, semipellucidâ politâ, gradatim crescenti, moderatè arcuatâ, ad apicem quadrangulatâ, versùs medium angulis costæformibus interstriatis, deinde usque ad marginem rotundâ, politâ haud striatâ; apice integro.*

THE DISSIMILAR DENTALIUM. Shell white, semipellucid, polished, gradually increasing, moderately curved, quadrangular at the apex, the angles interstriated towards the middle, thence to the margin rounded, polished, and without striæ; apex entire.

SOWERBY. Thesaurus Conchyliorum, Dentalium, Sp. 47, f. 37.

Hab. Isl. Samar, Philippines.

This shell has three distinct characters in its length. At the apex it is four-sided, each angle forming a rib; then there appears a small stria between the angles; and then from the centre to the margin ribs and striæ disappear, leaving a smooth rounded circumference.

Species 26. (Mus. Cum. in Brit.)

DENTALIUM VARIABILE. *Den. testâ subcylindraceâ, crassâ, angustâ, albidâ, lentè crescenti, rectiùsculâ, costis subrotundis, maculatis quasi-articulatis, versùs apicem paucis, medio et infrâ magis numerosis sculptâ.*

THE VARIABLE DENTALIUM. Shell subcylindrical, thick, narrow, whitish, slowly increasing, rather straight, sculptured with rounded ribs, few towards the apex, more numerous in the centre and towards the apex.

DESHAYES. Monograph of Dentalium.

Dentalium eburneum, Turton (var.).

Dentalium album, Turton (var.).

Hab. Philippines.

The variabilities of this species depend upon the number of ribs into which the few at the apex multiply towards the middle and base.

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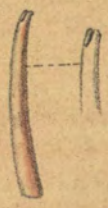

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DENTALIUM.

PLATE V.

Species 27. (Mus. Brit.)

DENTALIUM QUADRANGULARE. *Den. testâ parvâ, albâ, cylindraceâ, longitudinaliter striatâ, ad apicem quadrigonâ, deinde ad marginem rotundatâ et striatâ; apice obtuso, integro.*

THE QUADRANGULAR DENTALIUM. Shell small, white, cylindrical, longitudinally striated, four-sided at the apex, thence to the margin rounded and striated; apex obtuse, entire.

SOWERBY. Proc. Zool. Soc., 1832. Thes. Conch. Dent. Sp. 48.

Hab. Xipixapi, West Columbia.

Species 28. (Mus. Brit.)

DENTALIUM SECTUM. *Den. testâ lacteâ, angustissimâ, subcylindraceâ, vix arcuatâ, politâ, versùs apicem tenuissimè leviter striatâ; apice ad dorsum obliquè secto.*

THE CUT DENTALIUM. Shell white, very narrow, subcylindrical, scarcely curved, polished, very finely lightly striated near the apex; apex very obliquely cut on the dorsal side.

DESHAYES. Monograph of Dentalium.

Hab. ——?

The fissure is formed by an oblique cut, as it were, across the apex.

Species 29. (Mus. Brit.)

DENTALIUM CANCELLATUM. *Den. testâ albâ, tenui, versùs apicem validè arcuatâ et acuminatâ, costis sex ad octo acutis laqueatâ; interstitiis transversè foveolatis, medio et usque ad marginem rotundatâ, striatâ, rectiùsculâ; apice integro.*

THE CANCELLATED DENTALIUM. Shell white, thin, strongly curved, and acuminated towards the apex, fluted with six to eight sharp ribs, with transversely pitted interstices, rounded, striated, rather straight in the middle and towards the margin; apex entire.

SOWERBY. Thesaurus Conchyliorum, Dentalium, Sp. 28, f. 26.

Hab. China.

A shell of very singular sculpture towards the apex.

Species 30. (Mus. Cum. in Brit.)

DENTALIUM SPLENDIDUM. *Den. testâ elongatâ, angustâ, politâ, mediocriter arcuatâ, lentè crescenti, medio et versùs marginem lacteâ, versùs apicem rubrâ; apice utrinque fissurato, fissuris incisis, dorsali subproductâ.*

THE SPLENDID DENTALIUM. Shell elongated, narrow, polished, with a medium curve, slowly increasing, milk-white in the middle and towards the margin; red towards the apex; apex fissured on each side; fissures incised, the dorsal one a little produced.

SOWERBY. Proc. Zool. Soc., 1832.

Hab. Xipixapi, West Columbia.

The dorsal and ventral slits are not to be found in every specimen of this interesting shell.

Species 31. (Mus. Brit.)

DENTALIUM ATTENUATUM. *Den. testâ angustissimâ, tenui, lævigatâ, mediocriter arcuatâ, versùs apicem rufo-fulvâ; medio et versùs marginem lacteâ; apice attenuato, acuminato, integro.*

THE ATTENUATED DENTALIUM. Shell very narrow, thin, smooth, with a medium curve, reddish-brown towards the apex; milk-white in the middle and towards the apex; apex attenuated, acuminated, entire.

SOWERBY. Thesaurus Conchyliorum, Dentalium, Sp. 15, f. 40.

Hab. ——?

Species 32. (Mus. MacAndrew.)

DENTALIUM FILUM. *Den. testâ lineari, tenuissimâ, subpellucidâ, succineâ, lævigatâ, rectiùsculâ, latitudine lentissimè crescenti; apice acuminato, integro.*

THE THREAD DENTALIUM. Shell linear, very thin, subpellucid, amber-coloured, smooth, rather straight, very slowly increasing in width; apex acuminated, entire.

SOWERBY. Thesaurus Conchyliorum, Dentalium, Sp. 17, f. 45.

Hab. Gibraltar, *MacAndrew*. Philippines, *Cuming*.

Species 33. (Mus. Brit.)

DENTALIUM FISSURA. *Den. testâ flavido-rubescenti, politâ, tenui, subpellucidâ, angustâ, moderatè arcuatâ; apice, obliquè secto, ad marginem dorsalem incisione elongatâ, nonnunquam ad marginem ventralem incisione brevi fissuratâ.*

THE FISSURED DENTALIUM. Shell yellowish-red, polished, thin, rather pellucid, narrow, moderately curved; open, obliquely cut, fissured with an elongated slit on the dorsal margin, sometimes with a short slit on the ventral margin.

LAMARCK. Animaux sans vertébres.

Hab. Indian Seas.

Species 34. (Mus. Brit.)

DENTALIUM LIRATUM. *Den. testâ albâ, parvâ, rectâ, angustâ, cylindraceâ, costis longitudinalibus rotundatis æqualibus circa duodecim liratâ.*

THE LUTE-STRINGED DENTALIUM. Shell white, small, straight, narrow, cylindrical, ridged with about twelve longitudinal, rounded, equal ribs.

CARPENTER. Shells of Mazatlan.

Hab. Mazatlan, United States.

Species 35. (Mus. Brit.)

DENTALIUM QUINQUANGULATUM. *Den. testâ albâ, parvâ, acuminatâ, propè apicem validè arcuatâ, rapidè crescenti, costis angulatis quinque sculptâ, margine aperturæ perobliquo, latere ventrali producto; apice acuto, integro.*

THE FIVE-ANGLED DENTALIUM. Shell white, small, acuminated, strongly arched near the apex, rapidly increasing, sculptured with five angular ribs, margin of the aperture very oblique, produced on the ventral side; apex acute, entire.

FORBES. Report on the Ægean Sea.

Hab. Ægean Sea.

Remarkable for the strong curve near the apex, and for the peculiarly obliique elongated margin of the aperture.

Species 36. (Mus. Brit.)

DENTALIUM LOBATUM. *Den. testâ brevi, validè arcuatâ, curtâ, latâ, lævi, albâ, vel partim coloribus pallidis variegatâ; apice obtuso, truncato, in lobis quatuor diviso.*

THE LOBED DENTALIUM. Shell short, strongly arched, short, broad, smooth, white or partly variegated with pale colours; apex obtuse, truncated, divided into four lobes.

SOWERBY. Thesaurus Conchyliorum, Dentalium, Sp. 20, f. 44.

Hab. ——?

The habitat of this curious species is not known. Of the four lobes, into which the apical margin is divided, the ventral and dorsal ones are slightly fissured.

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DENTALIUM.

PLATE VI.

Species 37. (Mus. Brit.)

DENTALIUM LACTEUM. *Den. testâ subhyalinâ, lævi, politâ, lacteâ, lentè crescenti, rectiùsculâ, angustâ; apice integro.*

THE MILK-WHITE DENTALIUM. Shell rather hyaline, smooth, polished, milk-white, slowly increasing, rather curved, narrow; apex entire.

DESHAYES. Monograph of *Dentalium*.

Hab. East Indian Seas.

A very plain shell, narrower than *Dentalium entalis*, and without any fissure at the apex.

Species 38. (Mus. Hanley.)

DENTALIUM POLITUM. *Den. testâ pallidè fulvâ, angustâ, gradatim crescenti, leviter arcuatâ, politâ, striis incisis obliquis numerosis concentricis cinctâ; fissurâ apicali elongatâ.*

THE POLISHED DENTALIUM. Shell pale fulvous, narrow, gradually increasing, slightly arched, polished, belted with numerous oblique incised concentric striæ; apical fissure elongated.

LINNÆUS. Systema Naturæ.

Dentalium eburneum, Desh. non Linnæus.

Hab. —— ? Fossil in Paris Basin.

Very rare in a recent state. Habitat unknown.

Species 39. (Mus. Brit.)

DENTALIUM TRANSLUCIDUM. *Den. testâ politâ, semi-pellucidâ, tenui, angustiùsculâ, leviter arcuatâ, pallidè succineâ; apice subacuminatâ, fissurâ apicali dorsali, incisâ, elongatissimâ.*

THE TRANSLUCENT DENTALIUM. Shell polished, semi-pellucid, thin, rather narrow, slightly curved, pale amber; apex subacuminated; apical fissure dorsal, incised, very long.

DESHAYES. Monograph of Dentalium.

Dentalium vitreum, Gmel. ?

Hab. West Indies.

Species 40. (Mus. Jeffreys.)

DENTALIUM ENTALE. *Den. testâ lævigatâ, solidâ, albâ, versùs apicem rapidè crescenti et validè arcuatâ; deinde rectiùsculâ et magis cylindricâ; medio et versùs marginem latiùsculâ; fissurâ dorsali ad apicem brevi.*

THE ENTELLA DENTALIUM. Shell smooth, solid, white, rapidly increased and strongly arched towards the apex; thence rather straighter and more cylindrical, in the middle and towards the margin rather broad, dorsal fissure at the apex short.

LINNÆUS. Systema Naturæ.

Hab. Mediterranean, Sicily, near the ancient town of Entella. Newfoundland. Great Britain.

Species 41. (Mus. Brit.)

DENTALIUM ERECTUM. *Den. testâ angustâ, politissimâ, vix arcuatâ, tenui, subpellucidâ, lentè crescenti, versùs apicem succineo-rubescenti; versùs marginem albâ; apice utrinque fissurato; fissurâ dorsali longiori.*

THE ERECT DENTALIUM. Shell narrow, very polished, scarcely arched, thin, subpellucid, slowly increasing, reddish amber towards the apex, white towards the margin; apex fissured on both sides; dorsal fissure the longer.

SOWERBY. Thesaurus Conchyliorum, Dentalium, Sp. 13, f. 55.

Hab. Sydney.

This almost straight shell was collected in Sydney by the late Mr. Strange.

Species 42. (Mus. Brit.)

DENTALIUM CURTUM. *Den. testâ brevi, pallidè fulvâ, tenuiter striatâ, validè arcuatâ, rapidè crescenti; apice attenuato et acuminato; fissurâ apicali parvo.*

THE SHORT DENTALIUM. Shell short, pale brown, finely striated, strongly arched, rapidly increasing; apex attenuated and acuminated; apical fissure small.

SOWERBY. Thesaurus Conchyliorum, Dentalium, Sp. 23, f. 64.

Species 43. (Mus. Brit.)

DENTALIUM ACULEATUM. *Den. testâ albâ, validissimè arcuatâ, rapidè crescenti, inæqualiter striatâ, versùs apicem attenuatâ, acuminatâ, versùs marginem latâ; apice integro.*

THE ACULEATED DENTALIUM. Shell white, very strongly curved, rapidly increasing, unequally striated, attenuated and acuminated towards the apex, broad towards the margin; apex entire.

SOWERBY. Thesaurus Conchyliorum, Dentalium, Sp. 22, f. 63.

Hab. —— ?

Too much curved and *unequally* striated to be the young of *Dentalium Tarentinum.*

Species 44. (Mus. Hanley.)

DENTALIUM FISTULA. *Den. testâ rectâ, angustissimâ, cylindricâ, albâ, politissimâ; apice integro.*

THE PIPE DENTALIUM. Shell straight, very narrow, cylindrical, white, very polished; apex entire.

SOWERBY. Thesaurus Conchyliorum, Dentalium, Sp. 15, f. 62.

Hab. —— ?

The fossil named *Dentalium Duplex* by Deshayes, resembles this, but there are no specific characters by which to identify it. The double termination or separation of the outer from the inner wall of the tube at the apex, from which the species of Deshayes derives its name, is not infrequent in many species.

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Sowerby del et lith.

Vincent Brooks Day & Son, Imp.

DENTALIUM.

PLATE VII.

Species 45. (Mus. Brit.)

DENTALIUM INTERCALATUM. *Den. testâ albidâ, solidâ, propè apicem costis paucis, versus medium et infrà aliis intercalatis laqueatâ; validè arcuatâ, rapidè crescenti, ad aperturam latiùsculâ.*

THE INSERTED DENTALIUM. Shell whitish, solid, fluted with few ribs near the apex and with others intervening towards the middle and below; much arched, rapidly increasing, rather broad at the aperture.

GOULD. —— ? MS. in Brit. Mus.

Hab. Hong Kong.

The ribs are few and angular at the apex, as in *D. pseudosexagonum*, and a little way down become more numerous by the intercalation of intermediates.

Species 46. (Mus. Hanley.)

DENTALIUM QUADRAPICALE. *Den. testâ albâ, solidâ, rapidè crescenti, propè apicem costis quatuor angulatâ, medio usque ad marginem costellis numerosis striatâ, aperturâ obliquè ovatâ.*

THE SQUARE-TOPPED DENTALIUM. Shell white, solid, rapidly increasing, angulated near the apex with four ribs, striated from the middle to the aperture with numerous riblets; aperture obliquely ovate.

HANLEY. Sowerby's Thesaurus Conchyliorum, Dentalium, Sp. 46, f. 61.

Hab. Cochin, Malabar.

Species 47. (Mus. Brit.)

DENTALIUM PORCATUM. *Den. testâ pallidè fulvâ, angustâ, validè arcuatâ, solidâ, lentè crescenti, inæqualiter costis ad latera magis distantibus liratâ, interstitiisque profundis; aperturâ parvâ.*

THE FURROWED DENTALIUM. Shell pale fulvous, narrow, strongly arched, solid, slowly increasing, unequally ridged with ribs, more distant at the sides, and deep furrows; aperture small.

GOULD —— ? MS. in Brit. Mus.

Hab. Hong Kong.

The ribs are closer on the dorsal and ventral areas than at the sides.

Species 48. (Mus. MacAndrew.)

DENTALIUM MINUTUM. *Den. testâ minutâ, tenui, albâ, semipellucidâ, lævigatâ, validè arcuatâ, lentè crescenti; apice truncato, bilobato.*

THE MINUTE DENTALIUM. Shell very small, thin, white, semipellucid, smooth, strongly curved, slowly increasing; apex truncated, bilobed.

H. ADAMS. —— ? MS. Brit. Mus.

Hab. Gulf of Suez. Collected by R. Andrews, Esq.

Much resembling *Dentalium lobatum*, Sowb., but with the apex divided into two instead of four lobes.

Species 49. (Mus. Brit.)

DENTALIUM HYALINUM. *Den. testâ angustâ, politâ, albâ, pellucidâ, mediocriter arcuatâ, gradatim crescenti; apice ad marginem dorsalem fissurâ subelongatâ inciso, ad marginem ventralem breviter fissurato, laterum marginibus lobatis rotundis.*

THE HYALINE DENTALIUM. Shell narrow, polished, white, pellucid, moderately arched, gradually increasing; apex incised at the dorsal margin with a rather elongated fissure, shortly fissured at the ventral margin, margins of the sides lobed, rounded.

LEACH —— ? MS. Brit. Mus.

Hab. —— ?

Like *Dentalium translucidum*, but hyaline white. The dorsal fissure, although rather long, is not nearly so long as in that species. *Dentalium lacteum*, which would otherwise pass for the present species, is not fissured. In *Dentalium lubricatum* also the apex is entire.

Species 50. (Mus. Brit.)

DENTALIUM BUCCINULUM. *Den. testâ albidâ, gracillimâ, rectiùsculâ, lentè crescenti, subæqualiter longitudinaliter striatâ; apice integro.*

THE LITTLE TRUMPET DENTALIUM. Shell white, very narrow, rather straight, slowly increasing, rather equally longitudinally striated; apex entire.

GOULD ——? MS. in Brit. Mus.

Hab. Hong Kong.

Species 51. (Mus. Cuming in Brit.)

DENTALIUM INVERSUM. *Den. testâ tenui, gracili, lævigatâ, moderatè arcuatâ, gradatim crescenti, propè apicem rubrâ, versus marginem aperturâ albâ; apice attenuato, acuminato, ad laterem ventralem fissurâ longiùsculâ inciso.*

THE INVERSE DENTALIUM. Shell thin, slender, smooth, moderately arched, gradually increased, red near the apex, white towards the margin of the aperture; apex attenuated, acuminated, incised with a rather long fissure on the ventral side.

DESHAYES. Sowerby's Thesaurus Conchyliorum, Dentalium, Sp. 14, f. 42.

Hab. ——?

This species is singular in possessing a slit on the ventral or inner side of the curve.

Species 52. (Mus. Brit.)

DENTALIUM ACICULUM. *Den. testâ albâ, subcylindricâ, tenuiter annulatâ, politâ, gradatim crescenti, leviter arcuatâ, tenui; apice subtruncato, integro.*

THE WHEAT-EAR DENTALIUM. Shell white, subcylindrical, finely annulated, polished, gradually increasing, slightly arched, thin; apex truncated, entire.

GOULD ——? MS. Brit. Mus.

Hab. Hong Kong.

The slight sort of annulated structure observable in this shell gives it a very pretty appearance.

Species 53. (Mus. Brit.)

DENTALIUM NEBULOSUM. *Den. testâ politâ, angustâ, tenui, albâ, validè arcuatâ, fasciis acutè angulatis pellucidis versus apicem variegatâ; fissurâ apicali laterali.*

THE CLOUDED DENTALIUM. Shell polished, narrow, thin, white, strongly arched, variegated near the apex with acutely angular pellucid bands; apical fissure lateral.

DESHAYES. Monograph of Dentalium.

Hab. Indian Seas.

The incision of the apex in this species is lateral instead of dorsal as usual, or ventral as in *Dentalium inversum*.

Species 54. (Mus. Brit.)

DENTALIUM PRETIOSUM. *Den. testâ albâ. solidâ, lævigatâ, leviter arcuatâ, gradatim crescenti, propè apicem rubrâ, angustiùsculâ; fissurâ apicali parvâ.*

THE PRECIOUS DENTALIUM. Shell white, solid, smooth, slightly arched, gradually increased, red near the apex, rather narrow, apical fissure small.

NUTTALL. MS.

Dentalium strialatum, Stimpson.

Hab. Massachusetts; California, &c.

It is of slower increase in circumference, less curved and more cylindrical than *Dentalium entale*.

Species 55. (Mus. Brit.)

DENTALIUM LUBRICATUM. *Den. testâ elongatâ, albâ, rectiùsculâ, angustâ, tenuiusculâ, lævigatâ, lentè crescenti; apice integro.*

THE LUBRICATED DENTALIUM. Shell elongated, white, rather straight, narrow, rather thin, smooth, slowly increasing; apex entire.

SOWERBY. Thesaurus Conchyliorum, Dentalium, Sp. 3, f. 56.

Hab. Australia.

A larger shell than *Dentalium pretiosum* or *D. entale*, narrower, more cylindrical than either of them.

DENTALIUM.

	Plate.	Species.
aciculum, *Gould*	VII.	52
aculeatum, *Sowerby*	VI.	43
album, Turton	IV.	26
annulatum, Sowerby	III.	16
aprinum, *Linnæus*	I.	2
arcuatum, Gmelin	I.	5
attenuatum, *Sowerby*	V.	31
Belcheri, *Sowerby*	I.	1
bisexangulatum, *Sowerby*	III.	15
buccinulum, *Gould*	VII.	50
cancellatum, *Sowerby*	V.	29
curtum, *Sowerby*	VI.	42
dentale, *Linnæus*	III.	21
dispar, *Sowerby*	IV.	25
eburneum, *Linnæus*	III.	16
eburneum, Deshayes	VI.	38
eburneum, Turton	IV.	26
elephantinum, *Linnæus*	I.	5
entalis, *Linnæus*	VI.	40
erectum, *Sowerby*	VI.	41
filum, *Sowerby*	V.	32
fissura, *Lamarck*	V.	33
fistula, *Sowerby*	VI.	44
formosum, *Adams & Reeve*	II.	7
hexagonum, *Gould*	II.	6
hyalinum, *Leach*	VII.	49
Indicum, Chemnitz	III.	16
intercalatum, *Gould*	VII.	45
interstriatum, *Sowerby*	II.	10
inversum, *Deshayes*	VII.	51
Javanum, *Sowerby*	III.	14
lacteum, *Deshayes*	VI.	37
Lessoni, *Deshayes*	IV.	22
liratum, *Carpenter*	V.	34
lobatum, *Sowerby*	V.	36
longitrorsum, *Reeve*	II.	9
lubricatum, *Sowerby*	VII.	55
minutum, *H. Adams*	VII.	48
nebulosum, *Deshayes*	VII.	53
novemcostatum, *Lamarck*	III.	13
octogonum, *Lamarck*	II.	12
Philippinarum, *Sowerby*	III.	18
politum, Deshayes (non Linn.)	II.	9
politum, *Linnæus*	VI.	38
porcatum, *Gould*	VII.	47
pretiosum, *Nuttall*	VII.	54
pseudosexagonum, *Deshayes*	IV.	23
quadrapicale, *Hanley*	VII.	46
quadrangulare, *Sowerby*	V.	27
quinquangulatum, *Forbes*	V.	35
rectum, *Gmelin*	I.	4
rubescens, *Deshayes*	IV.	24
sectum, *Deshayes*	V.	28
semipolitum, *Sowerby*	III.	19
sexcostatum, *Sowerby*	II.	11
splendidum, *Sowerby*	V.	30
Tarentinum, *Lamarck*	III.	17
tetragonum, *Sowerby*	IV.	20
translucidum, *Deshayes*	VI.	39
variabile, *Deshayes*	IV.	26
Vernedi, *Hanley*	I.	3
Zelandicum, *Sowerby*	II.	8

MONOGRAPH

OF THE GENUS

CORBIS.

"Infinite strength and equal skill
Shine through Thy works abroad,
Our souls with vast amazement fill,
And speak the builder God."—*Watts.*

2a.

1.

2b.

Sowerby. del et lith.

Vincent Brooks, Day & Son Imp.

CORBIS.

PLATE I.

Genus CORBIS, *Cuvier*.

Testa transversè ovata, æquivalvis, crassa; cancellatim sculpta. Cardo utrinque valva dentibus duobus medianis, et duobus lateralibus, antico subapproximato, postico distanti. Cartilago ligamentifera subexterna. Impressiones musculares duæ; impressio pallii simplex.

Shell transversely ovate, equivalve, thick, with a cancellated sculpture. Hinge in each valve with two central teeth and two lateral, the anterior near, the posterior remote. Muscular impressions two; impressions of the mantle simple.

This genus, of which we know only two species, is allied by the character of the hinge to the "*Tellinidæ*," but by general form and structure to the "*Veneridæ*." Both species are products of eastern seas.

Species 1. (Mus. Brit.)

CORBIS FIMBRIATA. *Cor. testâ albâ, nonnunquam ad latera pallidè subroseâ, crassâ, rugosâ; costis inæqualibus imbricatis et striis interstitialibus radiantibus, et rugis transversis subconcentricis, undulatis, cancellatâ; intùs albâ, cardine sæpe aurantio rubroque pallidè tinctâ; margine denticulato; umbonibus subcentralibus.*

THE FIMBRIATED CORBIS. Shell white, sometimes pale rose at the sides, thick, rugose; cancellated with unequal imbricated ribs and interstitial radiating striæ, and transverse subconcentric, undulated wrinkles; white within; hinge often slightly tinged with orange and red; margin denticulated, umboes subcentral.

LINNÆUS. Systema Naturæ.

Corbis elegans, Deshayes (var.).

Hab. Indian seas.

The sculpture is coarser in the earlier portion of the shell's growth than it becomes after the shell attains a more mature development, when towards the ventral margin the radiating ribs almost die out, and the transverse wrinkles become finer and closer. In some specimens the coarser sculpture is continued over a larger portion of the surface than in others. When this is the case, the name of *Corbis elegans* would be applied to the variety so caused. It is, however, so entirely a question of degree that it is impossible to divide any extensive series of specimens into the two species.

Species 2. (Fig. *a*, *b*, Mus. Cuming in Brit.)

CORBIS SOWERBYI. *Cor. testâ ventricosâ, albidâ, liris laminatis extantibus concentricis, subæquidistantibus anticè laqueatis, et striis inter liras radiantibus ornatâ, intùs subaureo; ætate juniori compressâ, roseo radiatim fasciatâ.*

SOWERBY'S CORBIS. Shell ventricose, whitish, ornamented with laminated, standing out concentric ridges fluted in front and striæ radiating between the ridges; within a little orange; in the young state compressed, banded with rose colour in rays.

REEVE. Proc. Zool. Soc., 1841.

Hab. Indian seas.

In its young state, compressed and rayed, this shell bears a very strong resemblance to a fossil *Corbis* in the Paris basin.

November, 1872.

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